# Medical Alumni BULLETIN

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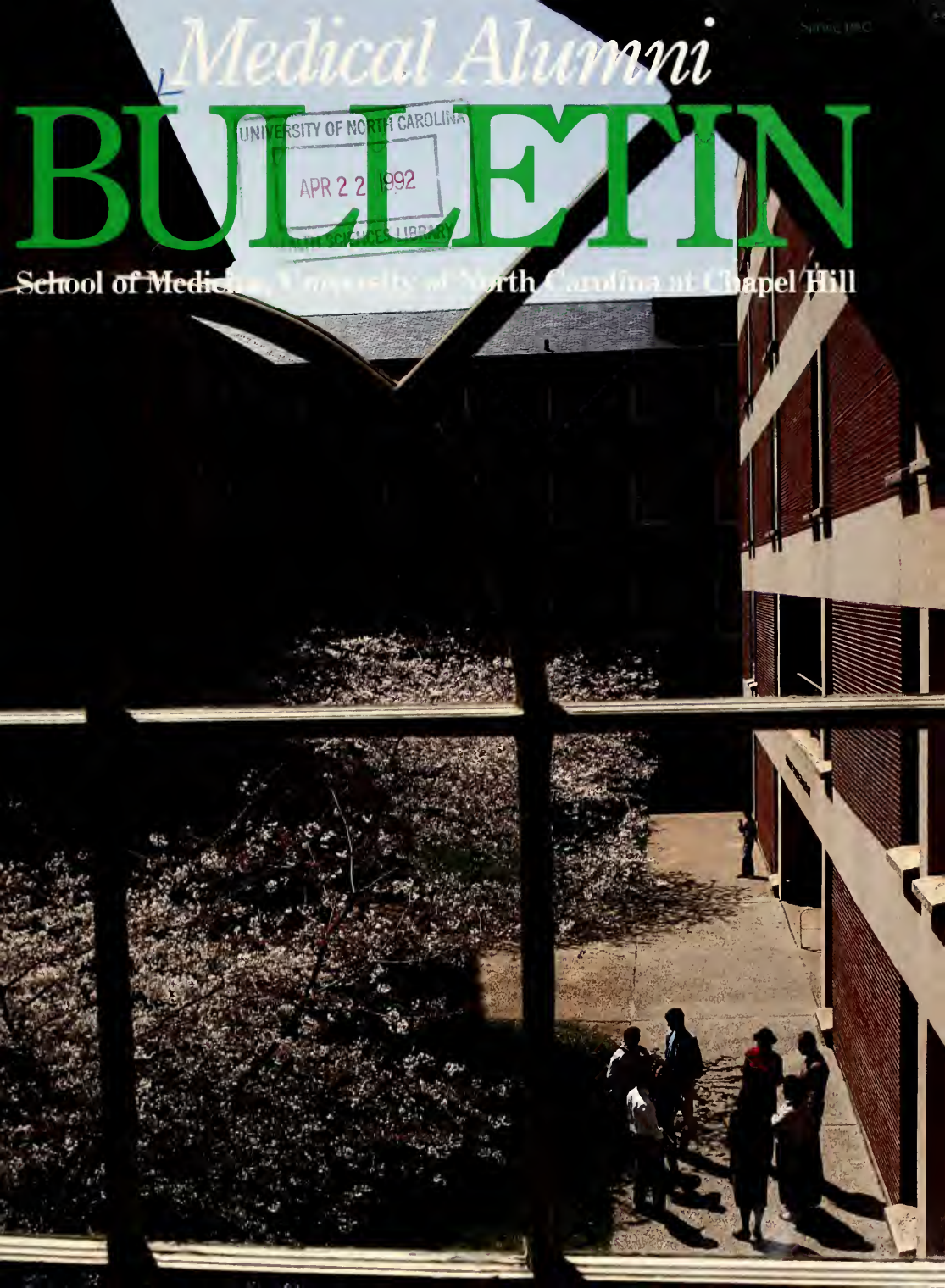

# Dean's Page

The coming presidential election promises to intensify greatly the debate on health care reform. Perhaps there was a time when presidential elections in this country served as a forum for rigorous analysis and informed debate whereby choices critical to the future destiny of the country could be made. Recent presidential (and other) elections have rather been characterized by brief sound bites, manipulation and sloganeering. It is too bad, I think, that a matter as important to the future of the American people, as sensitive to as many complex scientific, ethical and economic considerations, and as much in need of thoughtful analysis and careful reasoning will be, perhaps irretrievably, distorted by the characteristics of the coming dialogue.

It is not possible within a period of months to develop a comprehensive plan for health care reform that will be sufficiently thought through to anticipate most of the consequences, intended and unintended. The several bills now pending in Congress for example might be called preplanoids. They state policies under which plans might be developed, but they are not in themselves structured plans for the design and operation of the health care delivery system. The debate then is unlikely to constitute an informed comparison of even first order consequences of the several proposals.

In this setting, I believe that we as physicians have an especially important role to play.

We need to recognize the powerful forces generated by powerful interests that influence the dialogue and the perceptions. Organized medicine is one of the interests, but it is only one, and it may not even be a major one. Other significant interests include the public, represented in part by various elected, appointed, and self-appointed spokespersons, the insurance industry, the hospital industry, the pharmaceutical and health care equipment industries, and the many interests that survive because of their relation to the health care system.

Physicians should properly represent the interests of the medical profession in this debate or dialogue, and we should speak to our view of the public interest, but we should recognize that conflicts of financial interest compromise our credibility. The credibility of physicians is much needed to focus the sharp light of reality upon the often data-free and hopeful thinking that passes for analysis. Too often, there is not appropriate data available to serve as a basis for solid analysis of the consequences of different proposals. Under these circumstances, physicians along with health services researchers and others can perform the important function of defining the critical questions. It may be that even in a dialogue that consists of one-paragraph newspaper commentary or 30-second television sound bites, thoughtful, informed and pointed questions can serve to expose and enlarge the simplistic thinking that has so far been all too characteristic of the debate on health care reform.

The coming public dialogue promises to be the most influential with respect to health care in some time. The more thoroughly and thoughtfully the options are aired and considered, the more likely it is that there will be a reasonable outcome to the dialogue. As physicians, we and our patients have a great stake in that outcome. We should help to inform the dialogue.

Stuart Bondurant

*Stuart Bondurant, Dean*

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**School of Medicine, University of North Carolina at Chapel Hill**



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## Contents

### Features


UNC Physicians Fighting the War on Cancer ..... 2

Five Decades of Caring in China Grove ..... 6

UNC Dermatologists Find Clues to Rare Skin Diseases ..... 8

Cochlear Implants: Giving the Miracle of Hearing ..... 10

High-Touch to High-Tech: A Look at Medical Allied Health Professions ..... 12

What's Medical School Like? Families Find Out ..... 16


### Departments


Dean's Page ..... Inside Front Cover

Development Notes ..... 18

News Briefs ..... 20

Faculty Notes ..... 27

Class Notes ..... 31

President's Letter ..... Inside Back cover

Alumni/CME Calendar ..... Back Cover


### On the Cover

What could be nicer than springtime in Chapel Hill? Medical students and staff enjoy a reprieve from their daily pursuits among the Yoshino cherry tree blossoms near the front entrances of MacNider Hall and the Health Sciences Library. (Photo by Jay Mangum)

# CANCER– Dread Word Gordian Knot

**By Val Lauder**

Cancer. Six letters that have traditionally spelled dread.

That is beginning to change some, as society enters a new generation of waging war on cancer. But it's an awfully large battlefield. The American Cancer Society estimates that:

• This year, 1,130,000 people will be diagnosed as having cancer—30,000 in North Carolina.

• 83 million Americans now living will eventually have cancer—about one in three, according to present rates.

• Over the years, cancer will strike in approximately three of four families.

All this despite the wonders of modern medicine—high-tech science, miracle drugs, breakthroughs.

"There are thousands of kinds of cancer," said Howard Ozer, M.D., Ph.D., professor and chief of the Division of Oncology in the UNC School of Medicine, "and each presents in tens of different ways.

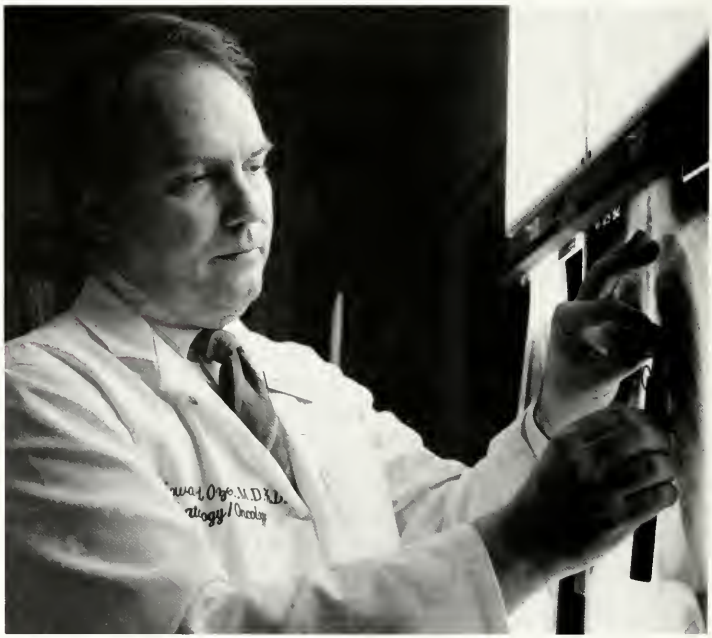
"Obviously, what everyone would like—patients, physicians, the general public—is a test that can be used to screen patients when they come into a doctor's office and determine whether or not they have cancer," Ozer said. "Ideally, you'd like a test that would predict as early as possible in the course of the disease—preferably, even predict disposition to cancer among families.

"Unfortunately, with a very few notable exceptions, that remains only a dream of most research. There are a number of genetic syndromes, familial cancer syndromes, in which we know that there is a very high risk for cancer. Intestinal polyposis would be one of those in which patients develop polyps at a very high rate, and there is a disposition to colon cancer in those patients. We can screen those patients by a variety of means. But, by and large, at this point in time, tests that detect cancer simply don't exist."

Yet, the oncologists stress that early detection is key to success. The key to survival, in many cases.

Joel E. Tepper, M.D., professor and chair of the Department of Radiation Oncology, put it in perspective: "What we've learned over the years is that when tumors are found earlier, they are more curable than when they are found at a later stage.

"That makes sense, because tumors extend locally and when tumors get larger they become more difficult to take out surgically, and they become more difficult to control with radiation. When tumors get



*Howard Ozer, M.D., Ph.D.*

*Photos by Jay Mangum*

*Joel E. Tepper, M.D.*

larger, they are more likely to spread elsewhere in the body, which makes them much harder to cure, and oftentimes makes it so they can't be cured."

"Part of the problem," Ozer said, "is that cancer is such an enormous heterogeneous population of diseases. That's always the problem that we face, whether we're looking for a single therapy, a single means of diagnosing it, a means of detecting it, screening for it—it is such a heterogeneous group of diseases. Also, because cancer is often masked as normal cell growth, we simply don't see it until it becomes irreparable."

Another problem, according to Wesley C. Fowler Jr., M.D., professor and chief of Gynecologic Oncology, is a general lack of early warning symptoms.

With a host of other diseases, you feel pain and go to the doctor. Even with a head cold, there are symptoms you look for—a sneeze, a cough.

"Unfortunately," Fowler said, "with cancer, the warning signals are often subtle or nonexistent. You have cells that go unchecked in their growth, that don't give pain. Most of the symptoms that you get from cancer result from the cancer growing so large it becomes an abnormal space-occupying thing."

Still, there are clues to look for, Tepper said. "People can be observant of their own bodies and on the lookout for things like hoarseness in their voice, skin changes, changes in bowel habits and so forth. These are all signs that should be brought to the attention of the personal physician for his or her evaluation."

Ozer agreed that individual awareness and early discussions between a patient and physician are important because "there are probably no more than 10 assays that have the potential for being useful as detection devices in the near future. That gives you some idea of the magnitude of the problem."

He cited pancreatic cancer, one of the top 10 cancer killers in the United States. "We're a long, long way from being able to have a simple blood test or genetic test to tell who is likely to get it, or when they're likely to get it, or even detect it a little bit ahead of time. The best hope we have is that when pancreatic cancer develops, it is close to the bile duct; people turn yellow (jaundice) from the disease, and that serves to detect the tumor at a point where we can treat it surgically."

Researchers say they are still a great distance from being able to develop a simple blood test.

"There are two issues that relate to detection," Ozer explained. "One is specificity and the other is sensitivity. Unfortunately, they tend to be at odds.

"What you want is an exquisitely sensitive test that can tell you when there's a cell 'thinking about' becoming malignant. The problem with that is, as you increase the sensitivity, you tend to decrease the specificity."

Ozer said, "It isn't cost effective to take the entire population of patients and perform blood tests on them on a regular basis because you'd wind up with thousands, if not hundreds of thousands, of false-positive results that you would then spend hundreds of thousands or even millions of dollars on. The confusion would be rampant—people without cancer would be scared they did have it, and their money would be wasted, and society's efforts would be wasted."

James F. Huth, M.D., associate professor of surgery, offers a simple formula for the value of screening. It should be:

- Inexpensive;
- For a treatable cancer; and
- For a commonly occurring cancer.

"If it's a rare cancer," Huth said, "even with a good screening test, you have to screen thousands of people to pick up one cancer. That makes it very cost ineffective. If it's a common cancer, and you can screen it cheaply, that's obviously ideal. Cervical cancer is one of these common cancers."

Fowler added that cervical cancer is "the only cancer that has a screening test that will pick up the disease process in a pre-malignant form that can be treated before it becomes malignant. The Pap smear has

The North Carolina Clinical Cancer Center and the UNC Lineberger Comprehensive Cancer Center combine to give the University of North Carolina at Chapel Hill one of the most respected comprehensive cancer programs in the country.

The N.C. Clinical Cancer Center provides a centralized and comprehensive cancer treatment program that successfully integrates many of the oncology clinics into a single facility. Officially established in the summer of 1988 as a joint program of the UNC School of Medicine and UNC Hospitals, the center's cancer program was developed to meet the clinical needs of patients treated at UNC Hospitals. Clinical oncology programs include: gynecologic oncology; head and neck oncology; medical oncology; neuro-oncology; pediatric oncology; radiation oncology; surgical oncology; and urologic oncology.

The Center also functions to organize facilities needs and to develop educational programs for health professionals as well as patients. A continuing annual oncology symposium is held each year in conjunction with the Medical Alumni Association's fall meeting. And just last year, the Patient/Family Resource Center was opened to provide educational information to cancer patients and their families.

One of only 28 comprehensive cancer centers in the country, the UNC Lineberger Comprehensive Cancer Center is a national leader in basic science, clinical and cancer control research. It has 150 core faculty members based in 15 departments. These faculty members are involved in the Center's eight programs: cancer cell biology, cancer control/prevention, cancer epidemiology, chemical carcinogenesis, clinical research, molecular therapeutics, immunology and virology.

In basic research, cancer center researchers have identified genetic factors associated with cell growth. In clinical investigations, researchers are involved in drug trials. Last year, the Center was awarded $3 million in grants from the National Cancer Institute for research in cancer prevention and control.

Patient education is also a primary focus of the Lineberger Center. In March, with Duke and Bowman Gray cancer centers, the Center hosted the Third National Cancer Institute Patient Education Conference. This meeting brought together more than 200 patient educators from all NCI cancer centers as well as health care professionals from throughout the southeast.

long been accepted as the gold standard for screening in cervical cancer.

Ozer said, "The cervix is very accessible, unlike the pancreas. It's easily examined by the physician and easily assayed. Secondly, cervical cancer is a good one for detection because it goes through what we believe are early, middle and late stages of abnormality."

Fowler said, "The Pap smear is inexpensive and acceptable to the patient. And we're improving the quality of test results for our patients."

Deborah J. Dotters, M.D., and Vern L. Katz, M.D., both assistant professors in the Department of Obstetrics and Gynecology, recently determined that an improved method of Papanicolaou smear collection can dramatically drive down the false-negative Pap smear rate, which had been thought to be as high as 25 percent.

Dotters and Katz said false-negative smears are often attributed to an error in collecting the cytologic material, the endocervical and/or metaplastic cell sampling of the transformation zone. The UNC researchers evaluated a new method of sampling the endocervix using a nylon brush in place of the traditional cotton-tipped applicator. "The cotton-tipped applicator appears to trap many cells within it, and also distorts cells as they are being smeared onto the slide," they said.

They examined a total of 298 smears and reported an inadequacy rate of 3 percent with the brush method, compared to 37 percent for the swab method. As a result of their study, "UNC Hospitals has switched exclusively to collection of endocervical smears with a cytologic brush," Dotters and Katz said. "The quality of care delivered to our patients as a consequence of this switch is likely to improve substantially."

With most other cancers, the emphasis continues to be on catching the cancer at an early stage, when the tumor is small and has not had time to spread.

The American Cancer Society estimates that some 75,000 women in the United States will be diagnosed with breast cancer this year, and it will claim the lives of 44,500 American women a year.

"Regular mammograms will decrease the death rate from this disease substantially," Tepper said.

Huth said, "It's estimated that if all women had mammograms, 90 percent of the breast cancers would be detected."

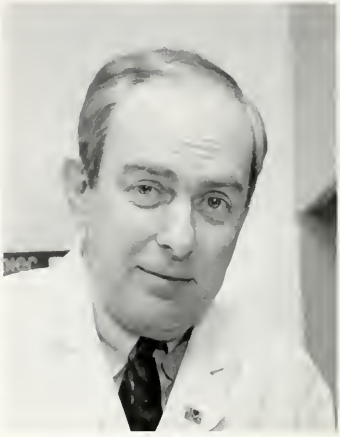
"Again, early detection is the key to effective treatment and ultimate survival," Fowler added.

The leading cause of U.S. cancer deaths in both men and women continues to be lung cancer—responsible for an estimated 92,000 deaths in men and 51,000 in women annually.

By the time the symptoms appear, lung cancer is usually far advanced. Getting routine chest X-rays helps in detection, but even at that point, many are beyond treatment. "Of course, some will be cured, but they are a minority," Huth said.

The doctors' best advice to smokers is to quit. Those who don't should certainly invest in a chest X-ray each year, Huth said.

Smoking is one of several projects under study in the Minority Cancer Control Research Program, which includes investigators from the School of Medicine and the School of Public Health.



*Wesley C. Fowler, M.D.*

"Minorities are at risk for certain cancers more than the majority population," said medical oncologist Paul Godley, M.D. "Prostate cancer is a case in point."

Prostate cancer is second to lung cancer as a cause of cancer deaths in men—about 34,000 deaths per year.

"Blacks have about twice the incidence rate of whites in prostate cancer and about 50 percent greater mortality," Godley said. "There may be advantages to studying the minority population, trying to understand more, understanding prostate cancer better and ways to prevent it."

Godley, whose major research area of interest is the effect of diet risk upon cancer, has just received a $1 million grant from the National Cancer Institute for a five-year study of the effect of fatty acid consumption on the risk of prostate cancer.

"International studies," he said, "show relatively low prostate cancer rates in countries with high fish consumption—Japan, China, Thailand, Iceland—and relatively high prostate cancer rates in countries with low fish consumption—Western European countries, the United States, Australia.

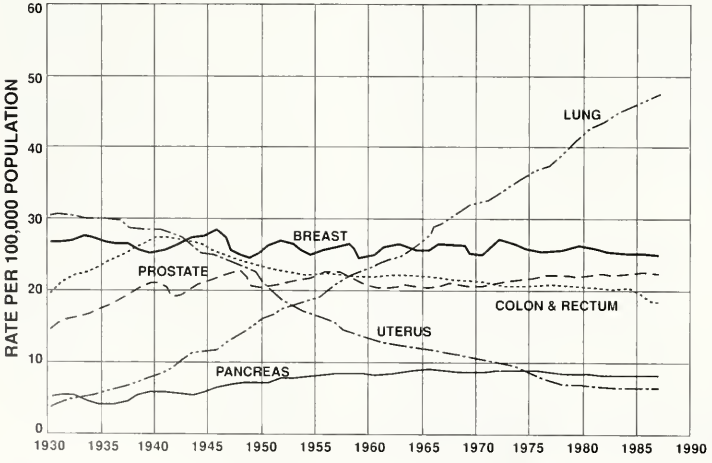
"Several studies indicate that a number of cancers are linked to high fat consumption. We're interested in looking at which components play a role in this, particularly the possible beneficial effect of the fatty acids in fish oil."

In epidemiologic studies, low fish consumption seems to correlate with patients who have prostate cancer.

"There's a lot of evidence out there," Godley said, "that it's going to be very difficult to screen for prostate cancer."

James L. Mohler, M.D., assistant pro-

CANCER DEATH RATES BY SITE, UNITED STATES, 1930-87




*Adapted with permission from the American Cancer Society–Cancer Facts & Figures - 1992.*

fessor of surgery, said, "Earlier detection (of prostate cancer) may allow curative therapy; however, the optimal method for screening, whether screening is cost effective and whether earlier detection will in fact alter outcome is controversial."

A lot has been written about cancer, and the public has been bombarded with literature, but still more education is necessary, the doctors say.

"The one way to improve on the existing methodologies," Ozer said, "is to educate everybody about the issues that are involved. The woman who is educated enough to know that her family history puts her at high risk for breast cancer should start having mammography and physical exams and doing self-examination at a relatively early age.

"Prevention and detection are not the same thing.

Ozer said, "One always uses this as a paradigm: The high-risk group for lung cancer is smokers. You eliminate smoking, you eliminate 80 to 90 percent of all lung cancer overnight." He snapped his fingers. "Well, not exactly overnight, because many cases will appear for years and years, but at some age level, you'll eliminate it overnight. Now it does no good to society or to patients to spend millions of dollars developing detection methods for lung cancer when you've got a much more cost effective way of preventing lung cancer in the first place.

"Lung cancer is relatively easy in terms of cause and effect," Ozer said. "Other kinds of cancer, like breast cancer, we're much more in a quandary about. We think diet plays a role, but we think diet plays a role in everything."

The public's growing awareness of the importance of diet, exercise and not smoking may offer hope for the 1990s.

"But," Ozer said, "those changes came about not so much because people are advised they need to change their diet in order to avoid getting cancer, but because it has become fashionable and correct to do so. We knew for a long, long time that smoking caused lung cancer. Some change has occurred within the last 10 or 15 years —it's now unfashionable to smoke. But it's not just because people are afraid of lung cancer or heart disease, it's because people have adopted the attitude that it's an ugly, filthy habit, as well as being a major health risk."

The need for better education—not only of the public but of physicians—is well documented.

Ovarian cancer, Fowler noted, "accounts for something like 20 to 25 percent of the cancers of the female reproductive tract but well over 50 percent of the deaths." Why? "The majority of them present in late stages. They're far advanced before they have the first symptom.

"In fact, maybe only 10 to 15 percent of patients with ovarian cancer will have any symptoms referrable to the ovary." This is why more physicians are requesting that patients undergo routine pelvic exams—to find out if the ovaries are enlarged, Fowler said.

"Ovarian cancer is further complicated by the fact that there may be more than 40 different kinds of cancer in one organ."

There are some bright spots with ovarian cancer, Fowler said. "One of the types of cancers tends to appear in younger women. When I was doing my medical training, the majority of these patients died. Now, with chemotherapy, the majority of them live."

Huth saw a bright note, too, as he talked about looking at better and better ways to treat advanced cancers. "Chemotherapy. The biologic response modifiers. Immunotherapy. We're making progress. It's always going to be slow, because you're dealing with advanced stages of disease. You're trying to reverse a very long, involved process.

"But with childhood leukemias, that's what happened," Huth said. In the beginning, about 5 percent survived. "As the combinations of therapy and the timing of that therapy got better, we began curing children with leukemias and Hodgkin's Disease."

Huth noted that some say we're not making progress in the war on cancer. But the facts of the matter show that physicians are curing more people than ever before.

"Life for the cancer patient is difficult," said Edward A. Norfleet, M.D., professor and vice chair, Department of Anesthesiology, who underwent treatment for colon cancer at UNC Hospitals.

"No matter what your age, cancer always seems to come at the worst possible time in a person's life. Early in the disease, denial, anxiety, fear, depression and anger dominate, but with time comes acceptance and peace. As therapy begins to progress, one begins to get back into life.

"Cancer patients will either become very optimistic or pessimistic about their future. There is some scientific support for the belief that an optimistic mind can greatly influence how the immune systems of the body will defend against disease," Norfleet said.

Public awareness of cancer is growing, and more Americans are eating better, exercising more and are concerned about their physical health.

"We've had some successes in educating the public about cancer and early detection, and that's a cause for optimism," Ozer said.

Still, with so many kinds of cancer and the differentiations within those cancers, Ozer comments, "It's a giant Gordian knot."

His words had not fully settled in the quiet of his office before he amended that to: "A thousand giant Gordian knots."

UNC physicians have begun to unravel them, however, one by one.

# G. Clyde Shinn, M.D., Reflects On 50 Years of Medical Practice In Rural China Grove

**By Wes Lefler**

G. Clyde Shinn, M.D., of China Grove is a disciplined man.

But he says old habits are the hardest to break.

"When you've been going to the office every day for 50 years, to quit is the hardest thing in the world."

One of North Carolina's premier country doctors, Shinn, 86, says, "seeing my patients has been my first love for so long it's hard to imagine anything else."

Since age 85, he's been slowing down, trying to see fewer and fewer patients, trying to retire. Finally, in October 1991, he closed the door on his practice.

"In the spring I'm going to paint my house. That will be my retirement hobby," he says with a twinkle in his eyes.

Tall, thin and straight as a yardstick, Clyde Shinn has been China Grove's doctor for generations.

Stop anyone on the street or walk into any place of business in China Grove and ask about Dr. Shinn. They all say the same thing. "Oh, I don't know what we'll do without Dr. Shinn. He's been our family doctor and a wonderful friend for as long as I can remember."

Over the years, Shinn's practice hasn't changed that much.

"Back in the 1940s I charged $1 for an office visit and $2 for a house call. I got $25 for a baby delivered at home. But I usually didn't collect more than $18.

"Soon after World War II broke out, babies went to $35, delivered in the home, and $50 for one delivered in the hospital.

"I didn't go in the Army during the war. I was just getting started with my practice and had patients on the homefront to look after."

Nearly 50 years later, in 1991, Shinn was still making house calls, as he did all his professional life. His top fee: $20.

He says he treated patients for just about every common ailment you can name. In recent years the most frequent patient problems have been anxiety tension and the common cold. "Of course there's no cure for either.

"Most of my patients either got well, worse or stayed the same," he chuckles.

"It's hard to keep all your patients healthy," he says. "Some just have to have medicine. Others never need any, and still others...nothing seems to help much. But we treat them as best we can."

> **"In the 1940s I charged $1 for an office visit and $2 for a house call. I got $25 for a baby delivered at home. But I usually didn't collect more than $18."**
>
> G. Clyde Shinn, M.D.

Shinn's interest in medicine dates back to the place of his birth, Georgeville, on the Rocky River in Cabarrus County.

"I remember one day when I was just a youngster a neighbor from across the river was talking about his son to my dad. The man's name was Bob Hartsell. He was the school principal and a teacher. He must have had a fine command of the English language because I remember the colorful and graphic detail in which he talked about his young son's heart problem. He talked about all sorts of gurgling noises the boy's heart made. Mr. Bob said he could hear it when he put his ear to his son's chest.

"I couldn't have been more than 12 years old, and yet I thought that was the most interesting thing I had ever heard. From that day to this, I have had a love affair with the treatment of sick people."

As a small boy in a rural community, every year of school looked as though it would be his last. But each year the teacher at Georgeville would guide him through another grade.

"Finally, when I completed the 9th grade my teacher told me he couldn't teach me any higher. I would have to find another school. I managed to get into Farm Life Boarding School in China Grove, 30 miles from my home. And I finished high school in 1926.

"Back then, if you went on to college, you went to Carolina. So, that's what I did. In high school I had heard of physics and chemistry, but I had never seen a book on either.

Photo by Wes Lefler

*G. Clyde Shinn, M.D., in downtown China Grove.*

"My country background made my early years at Carolina very tough. I had to work hard, but I made it through pre-med and enrolled in Carolina's two-year medical school, from which I graduated in 1931. From there, I went on to earn my M.D. degree from the University of Maryland in 1933.

"I had to face the world in a depression, and I owed my brother in China Grove $8,000. That was an awful lot of money. But it had to be paid back.

"I joined the Army Reserves and practiced medicine in a Virginia tuberculosis clinic for six years until I got a chance to join Dr. Max Wicker in China Grove. That was in 1940.

"General practice was not my first choice. But I had to make a living. And I had to pay off that $8,000 debt. I really wanted to be a surgeon, but I couldn't afford to put off making an income.

"My wife, the former Opal Bradley of Hundred, West Virginia, graduated from West Virginia University and the University of Oklahoma. She was educated as a hospital dietitian, so China Grove was not her first choice. She stayed home and cared for the children until they were grown, and then she came to work in my office."

Shinn says medical spouses in a small town can have a rough time because of the cultural isolation. And small-town general practitioners have a tough time because of professional isolation.

"Does anyone in the medical society pay attention to a small-town doctor who is trying single-handedly to render a service to the community?" he asks.

"A doctor almost has to have a lucrative practice just to afford to be professionally and politically active, and it's getting to the point that a country doctor simply can't afford the time or the dollar investment.

"Thirty years ago I predicted the community doctor would become extinct. And I was partly right. The solo practice is virtually dead.

"Group family practice is bringing the community doctor back. The group practice in family medicine better meets the needs of the community, patients, spouses and doctors than the isolated solo practitioner," Shinn believes.

"Being in a group practice gives a doctor a chance now and then to take a few days off, for business or pleasure, and not be glued to his office every day for a lifetime."

Married for 56 years, the Shinns have three children: John B. Shinn, M.D., of San Jose, CA; Robert A. Shinn, with Fieldcrest Cannon Mills in China Grove and Catherine Shinn Rost, a school teacher in Fremont, CA.

"I've lived a long life and practiced medicine longer than most," Shinn says, "and everybody wonders what has been my secret of good health and stamina. Well, I think maybe, if you are not totally healthy, it's a good idea to have a chronic problem and look after it very carefully."

"Of course, the main thing is more basic than that," he says with a twitch of his moustache. "It helps to be genetically programmed for good health. I've always eaten all I could get, and yet I never gain a pound. That's been nice."

# UNC Dermatology– Finding Clues To Rare Skin Disorders

**By Beverly B. Thompson**

Every month Lynn Meadows drives 250 miles from Richlands, VA, to University of North Carolina Hospitals to have her son, Kurt, examined by Robert A. Briggaman, M.D. Despite the long drive, she considers herself lucky.

Briggaman, professor and chair of the Department of Dermatology in the School of Medicine of the University of North Carolina at Chapel Hill, and other faculty in the department are among only a handful of scientists in the world who specialize in treating and studying Kurt's rare skin disease.

Now 11, Kurt was born with a unique blistering disease called epidermolysis bullosa, or EB.

"The pediatrician who examined Kurt right after he was born noticed that the skin on Kurt's thumb was missing—he had sucked his thumb in utero," Lynn Meadows said. "We also saw some other blistering on his body. We felt fortunate that the pediatrician, who had been a resident at UNC, had worked with Dr. Briggaman and knew that he was studying blistering diseases."

The first cases of EB were described in Europe at the turn of the century; however, due partly to the rarity of this disease, intense research did not get under way until about 10 years ago. Since then, clinical and laboratory research on such blistering skin diseases at major medical schools has burgeoned, with the UNC School of Medicine leading the way.

UNC is considered one of the top skin research centers (as ranked by National Institutes of Health funding) in the country

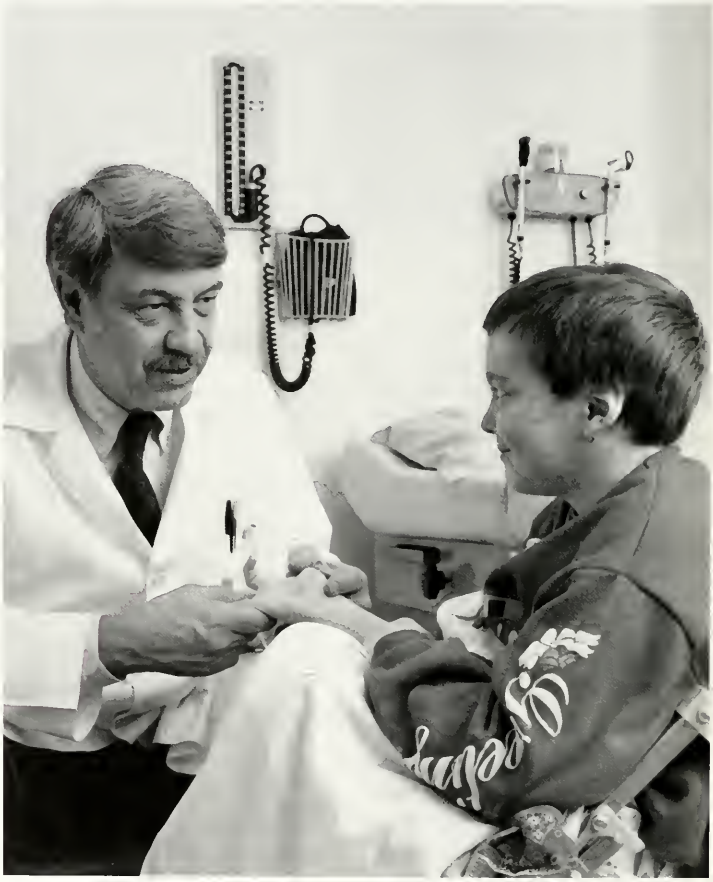


*Photo by Jay Mangum*

*Robert Briggaman, M.D., examines 11-year old Kurt Meadows.*

with a special interest in the study of blistering diseases. In what Briggaman calls "a nice mergence of people," faculty members in his department are doing research that could piece together the puzzle that may lead to better treatments and cures of blistering diseases, like EB.

EB is marked by fragility, blistering and sloughing of the skin after seemingly minor injury or irritation. The disease affects an estimated 50,000 people nationwide; however, far fewer people have been diagnosed, and of those, many are misclassified because the disease is so broad, Briggaman said.

"EB covers 23 different subtypes that are clinically and genetically distinct," Briggaman said. "In its mildest form, EB simplex, blistering may be limited to the hands and feet, while the most severe form of the disease can involve widespread areas of the skin and internal organs that are epithelial-lined, like the esophagus and intestines, and can be fatal."

Current research indicates that the underlying defects in EB involve structural or adhesion molecules essential in holding the skin together, Briggaman said. "Recently, specific genetic abnormalities have been found in several subtypes of EB involving the anchoring fibril collagen gene in a scarring form of EB and a keratin gene in EB simplex.

"In Kurt's disease, the problem is with an adhesive protein which connects the epidermal basal cells to the basement membrane layer of the skin. He has had quite a lot of trouble with his legs, neck and back area, with his blisters that heal very slowly and are painful," Briggaman said. "At the same time, while we're treating the open blisters, we have to be very careful to watch out for loss of proteins and iron that can lead to anemia and other nutritional problems. For that reason, physicians in the pain clinic, plastic surgery and nutrition are also involved in Kurt's care."

Much of the research done on EB is possible because of the Southern Clinical Center for the National Epidermolysis Bullosa Registry, which relocated to Chapel Hill from the University of Alabama at Birmingham last year when Jo-David Fine, M.D., associate professor of dermatology, joined the UNC faculty. The center serves as a resource for basic and chemical research for specialized care for EB patients in 15 states: North Carolina, South Carolina, Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Tennessee, Texas, Virginia and West Virginia.

Other centers are located at Rockefeller Center in New York City, Stanford University in Palo Alto, CA, and the University of Washington in Seattle.

Funded in 1986 by the National Institutes of Health, the registry was recently refunded through 1997. This year, the national data coordinating center relocated from New York to Chapel Hill, Fine said, to take advantage of additional resources in the UNC Schools of Public Health and Dentistry where faculty will participate in both basic and applied research.

Besides directing the center, Fine will be in charge of the diagnostic immunohistochemistry core laboratory and will direct, along with Edward J. O'Keefe, M.D., the cell culture core and DNA preparation facility. Walter R. Gammon, M.D., who has done extensive research in acquired EB, will direct the project's applied immunology laboratory. Briggaman will direct the morphology and ultrastructure core laboratory; Steven D. Resnick, M.D., a pediatric dermatologist, will participate in clinical-related trials; and Lorraine Johnson, SC.D., who relocated with Fine from UAB, will serve as the national data coordinator.

"The hope is, that with the presence of the data coordinating center here at UNC, we'll be able to more precisely define the disease and initiate clinical and basic research at an intensity that has not been possible ever before," Fine said.

"Among our many services to the scientific community, we'll be performing cell banking, specialized immunohistochemical and applied immunological studies with monoclonal antibodies produced in our own laboratories, transmission electron and immunoelectron microscopy, DNA extraction and purification, immunogenetics studies and complex biostatistical analyses. In essence, we will attempt to provide a comprehensive range of laboratory services which are currently unavailable for EB research within any other single institution in the world."

Not only will the core laboratories serve scientists at the four centers, but throughout the world. Fine and other project leaders are assisting in the establishment of similar EB registries in several other countries, including the former Soviet Union.

In the United States, 1,700 patients with some form of EB have been identified and are enrolled in the registry, with 48 percent of them actively followed here at UNC. Access to those patients has led researchers to a number of important findings that will have an impact on upcoming research activities.

Fine said a number of new forms of inherited EB and new modes of inheritance have been identified as a result of the registry. He added that the investigators have been able to show a linkage of some rare forms of EB to other internal diseases, for example, muscular dystrophy, that don't have a direct relationship to the skin.

Over the next half decade, Fine said, registry scientists expect to identify about 300-500 new patients a year, and by 1997, will have identified and studied about 10 percent of all Americans with the disease.

Presently, there is no cure for EB. Rather, treatment is directed toward intensive topical care of the skin and the correction or improvement of many of the secondary effects of EB, including anemia, strictures of the esophagus and trachea and mutilating deformities of hands, feet and the mouth.

"Unfortunately, for now, the future holds more of the same for people, like Kurt, with inherited EB," Briggaman said. "There is a lot of pain caused by the open sores, and we are forced to administer a variety of medications including analgesics and local anesthetics to partially relieve such a symptom."

Because of the open sores and risk for injuries or bruising, Kurt, a dean's list student, is homebound and receives his schooling from a tutor. "He handles it well and, on occasion, he does get to see other kids at school," Lynn Meadows said. "But for the most part, EB is a very lonely disease.

"I just want researchers to learn as much as they can about EB—to find a cure and to educate, because most people haven't heard of diseases like this."

Briggaman and Fine point to significant progress over the past five years. "Our center has received calls and correspondence from researchers, physicians and patients around the world," Fine said. "When indicated, we've performed specialized diagnostic studies that other labs were unable to do. We have also provided advice in the treatment of hundreds of EB patients and have had direct involvement in their care, from diagnosis to genetic and even prenatal counseling. Many of our accomplishments and our impact on this disease can be directly attributed to our interactions with these patients and their referring physicians."

Pediatricians, internists, general physicians and dermatologists and patients across the country who have questions about EB are invited to call the registry at (919) 966-2007 for futher information.

# Cochlear Implant Opens New World for Patients

**By Leslie M. Purcell**

Until she was 7 years old, Nina Alphin of Dunn had never heard her parents' voices, had never heard music or a dog bark or a telephone ring. She didn't know the sound of laughter. She had never learned to speak.

But after a cochlear implant at University of North Carolina Hospitals in September 1988 and ongoing speech and hearing therapy to learn to recognize and imitate sounds, a whole new world has opened up for Nina.

Unlike a hearing aid, which amplifies sound, the cochlear implant restores partial hearing to people who are totally deaf by electronically stimulating nerve fibers in the inner ear.

Nina is one of 35 pediatric and adult patients who have received a cochlear implant at UNC Hospitals since 1986 when the procedure was first performed in Chapel Hill by Harold C. Pillsbury III, M.D., Thomas J. Dark Professor of Surgery and chief of the Division of Otolaryngology-Head and Neck Surgery. Only four other medical centers in the country have done more. The youngest patient so far to receive an implant in Chapel Hill was 2 years old; the oldest 74.

In the cochlear implant, an external microphone, which looks like a behind-the-ear hearing aid, picks up sounds and sends them to a speech processor. The speech processor then amplifies and filters the sounds and puts them into a coded signal that goes to a receiver/stimulator which is surgically implanted in the temporal bone. The stimulator delivers the signal to the appropriate electrodes on a band of 22 electrodes implanted in the cochlea. These electrodes activate the auditory nerve fibers in the inner ear and create the sensation of sound. This sound information then goes to the brain for interpretation.

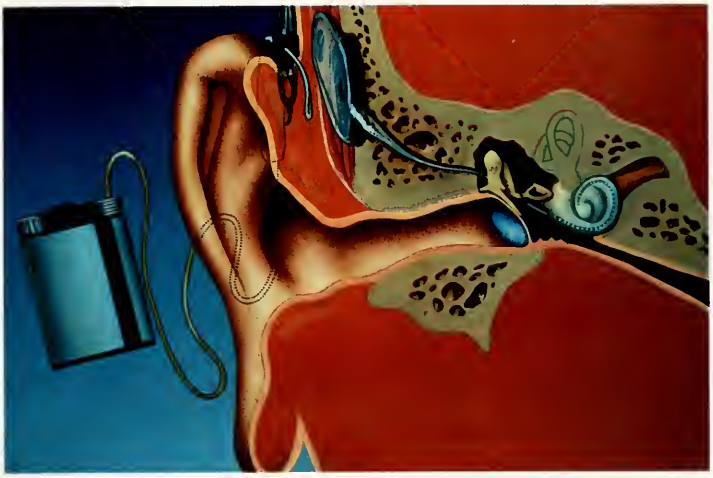
"The whole process happens in a very short amount of time, just a matter of milliseconds, so the person can hear sounds essentially as they occur," Pillsbury said.

"Before the implant, most patients aren't able to hear a jet blast," Pillsbury said. "Afterwards, they are able to hear a soft voice. But we measure the success of the implant by the patient's impression of an increased ability to function."

According to the American Academy of Otolaryngology-Head and Neck Surgery, Inc., there are as many as 500,000 people nationwide who could benefit from a cochlear implant.

"The implants are done only as a last resort for profound hearing loss because there is a risk of losing what hearing there is during the procedure," said Tambrey Oettinger, an audiologist at UNC Hospitals. "We evaluate the effectiveness of other devices, such as hearing aids, to rule out possible benefit from them before recommending the cochlear implant. Generally,

*Five-year old Victoria Price, with the help of Harold C. Pillsbury III, M.D., experiences sound for the very first time.*



only one ear is implanted."

The cause of the hearing impairment, the length of time the patient has had the impairment, and the patient's motivation and expectations all influence the impact of the implant.

To qualify for a cochlear implant, a person must have profound sensorineural hearing loss in both ears, not benefit from using a hearing aid and have no medical contraindications to surgery.

"Patients and their families must also be willing to work with the implant team and educational rehabilitation programs so the patient can learn to interpret and use new sounds effectively," Oettinger said.

"Rehabilitation for adults or children who have had hearing and then lost it is different from therapy for those who have never had hearing," she said. "Patients who have been able to hear at some point in their lives know what speech sounds like and remember what different sounds represent. For them, it's a matter of practicing listening to sounds and being able to identify them by pairing the new sound with their memory of what that sound was when their hearing was normal.

"Children who have never been able to hear need therapy three to five times a week to learn to make sense out of the sounds they're hearing. They hear a sound and are taught the source of the sound. They then can identify some sounds after hearing them several times."

"We measure patients' ability to understand speech using visual and auditory stimuli," Pillsbury said. "Patients do significantly better on word recognition tests after an implant.

"Using visual alone (lip-reading, facial expressions, gestures), which is like looking at television without the volume on, there is no difference in the number of words they understand before and after the implant.

"With auditory stimulation alone, patients without an implant can select the word they hear from a list of four words about 25 percent of the time, which is the same as the number they would get right just by chance. After the implant, they choose the right word from the list about 85 percent of the time.

"Most patients understand 45 percent of the words they hear in conversation after the implant using auditory and visual cues together. This is up from only 20 percent before the implant and is enough to understand the meaning of what is being said even though they don't get every word. Some implant patients understand as much as 90 to 95 percent of conversation when auditory and visual cues are combined.

"The fact that after the implant there is no change in their comprehension with visual alone and a significant change using auditory and visual shows that they're hearing something and not just lip-reading."

But learning to recognize sounds and words is a "long, slow process," said Nina's mother, Teresa Alphin. "A child doesn't go immediately from being a deaf child to a hearing child. The implant doesn't replace what you've lost. It just helps you adjust by giving you a tool to do things that maybe you couldn't do before.

"Until the implant, Nina had never had the opportunity to hear a conversation. It's as if you didn't know Japanese and someone started talking to you in Japanese, you wouldn't know what they were saying. She has to learn bits and pieces, not everything all at once."

According to Oettinger, the sound patients get from the implant is not like normal speech. "They get electrical pulses with different pitches that are synchronized with speech but don't sound like speech," she said. "Some adults (who have had hearing before) describe the sounds as being like a cartoon character voice, similar to 'Donald Duck.' "

"Before Nina's implant, there was so much worry for me," Alphin said. "What if she's out walking and doesn't hear a car, or the smoke alarm goes off and she doesn't hear it? It has relieved my apprehension because she can hear danger signals, such as alarms and horns, and she can hear me call."

"The impact of the implant on the quality of life enjoyed by these people is incredible," Pillsbury said. "When candidates are selected and counseled appropriately, they can feel they've made the right decision and are experiencing richer and fuller lives because of the implant. The risk of surgery pales in light of being able to hear."

> **"Before the implant, most patients aren't able to hear a jet blast, afterwards, they are able to hear a soft voice."**
>
> Harold C. Pillsbury III, M.D.

# The Allied Health Professions at UNC: Ranging from High-Touch to High-Tech

"We read a lot these days about college graduates who can't find work, but they're not our graduates." says David E. Yoder, Ph.D. chair, Department of Medical Allied Health Professions of the School of Medicine at the University of North Carolina at Chapel Hill.

The department reports zero unemployment for its latest class of 120 allied health graduates. "Today, all are employed in health care or educational settings," Yoder said.

In many cases, allied health students are receiving job offers well before graduation. The market is that tight.

"Not a day goes by that we don't hear from employers or search firm recruiters," says Catherine Nielson, M.P.H., director, Division of Occupational Therapy.

Just who are these people who are in such great demand?

"Allied health professionals work together with physicians and other health care personnel toward the common goal of providing the best possible service in patient care and health promotion," Yoder said. "The mission of allied health professionals is to promote health, to intervene in the disease processes, and to restore function through diagnostic, habilitation and rehabilitation services."

They are the providers of a wide range of diagnostic and therapeutic health care services—from high-touch to high-tech. They are the clinical laboratory scientists, cytotechnologists, medical technologists, radiologic technologists, physical therapists, occupational therapists, rehabilitation counselors, speech and language pathologists, audiologists and others. They work in hospitals, research and commercial laboratories, home health agencies, community rehabilitation centers, public schools and private practice.

Collectively, medical allied health professionals form the largest sector of the health care work force. Yoder says six of every 10 health care workers are allied health professionals.

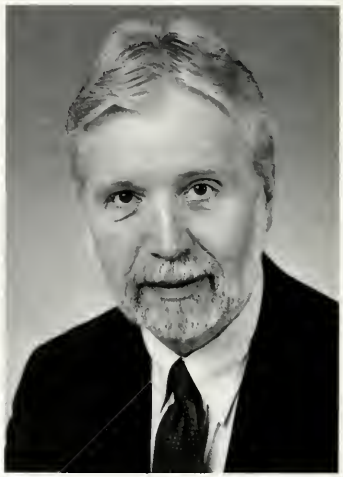
"Demand for their services is growing, but the supply hasn't kept pace," Yoder said. "This is health care's 'invisible crisis' because many allied health professionals operate behind the scenes. The general public doesn't ordinarily perceive the scope of how we factor into the delivery of health care services. The shortage of allied health people can translate into slower health care service, longer waits."

Yoder said the growing demand for allied health professionals is being influenced by the trend toward outpatient and home health care.

"Practice settings are changing," said Darlene Sekerak, M.S., director, Division of Physical Therapy. "In PT, our services used to be delivered predominantly in the general hospital. Stroke victims, for instance, used to stay three months. Now, they're gone in a week or two. PT is moving out of the hospital because the patients are."

Diagnostic services are following the same pattern, said Janice C. Keene, M.S., associate professor, Division of Radiologic Science, as free-standing, outpatient ambulatory imaging centers are springing up.

"The graying of America also creates greater demand for allied health professionals," said Celia R. Hooper, Ph.D., associate professor, Division of Speech and Hearing Sciences. "With older adults, there is more emphasis on home health care," she said. Plus, an aging population typically needs more laboratory testing, said Vicky A. LeGrys, D.A., director, Division of Clinical Laboratory Science.



*David E. Yoder, Ph.D.*

Sandra M. Renwick, director, Division of Cytotechnology, said, "Cytotechnologists have traditionally played a major role in the early detection of cancer and cancer diagnosis, but AIDS and expanding transplantation programs have increased demand for cytotechnologists to detect opportunistic and other infectious agents."

Yoder says another factor influencing demand is a new set of public laws requiring education and services for children with disabilities, especially infants and preschool-aged children, as well as their families. "The public schools have had to respond, opening up hundreds of jobs for speech and hearing specialists, occupational therapists and physical therapists within the

educational system," Hooper said.

LeGrys estimates by year 2000, there will be a shortage of 100,000 clinical laboratory science practitioners in the United States. "The profession needs to graduate 1,000 more students every year just to meet future growth needs," she said.

The bottleneck is that the current higher educational system cannot produce those kinds of numbers. "It's an interesting dilemma we face, because conditions vary across disciplines.

"Nationally, there is one large category—including PT, OT and speech and hearing sciences—where demand is outstripping the university system's capacity to turn out new practitioners," Yoder said. "There is a relatively large pool of applicants for the number of seats available."

This is proving to be the case at UNC where applications for fall are up. Physical Therapy expects 250 applications for 26 slots; Speech and Hearing Sciences—200 for 25 seats; and Occupational Therapy—100 for 16 openings. "It can become frustrating because we have many good applicants who would make excellent OTs, but we can't admit them because of lack of space," Nielson said.

New PT and OT programs are being planned in North Carolina universities and community colleges, but as Yoder says, not quickly enough to have an impact on the supply side for some time to come.

There is another category of allied health professions, however, where the applicant pool is shallow.

While there is considerable demand in the work force for clinical laboratory scientists, respiratory care technologists, dental assistants, dental hygienists and the like, the educational programs are less than full. There aren't enough applicants to fill all available slots.

LeGrys said that in the clinical laboratory science area alone, the closing of a number of one-year, hospital-based programs in the 1980s resulted in a 34 percent decline in the number of graduates.

"Look at the demographics. There are fewer students in college, fewer science majors and clinical laboratory science has been female-dominated. Other career opportunities are now available to women. This is the environment in which we operate."

While enrollments are down nationally in clinical laboratory and radiologic sciences, "our divisions here at UNC have worked very hard toward filling their classes and are doing well," Yoder said. "UNC is unique among four-year college programs across the country in that we have stabilized our enrollments in these divisions while many are closing their programs because of too few students."

Photo by Greg Plachta

*Eight-year old Suzanna Woodruff of West End had eight operations in eight years to correct problems with her hips, legs and back. After each operation, she has had to learn to stand and walk again through rigorous physical therapy at UNC Hospitals and at home.*

This is due largely to an aggressive recruitment program that was launched in the mid-1980s, said Robert L. Thorpe, Ed.D., associate chair of the department. "To create awareness for allied health," he said, "we'll go just about anywhere to tell our story."

Thorpe helped develop a new, 1-credit course, "Introduction to the Health Professions," open to freshmen and sophomores at UNC. Enrollment has grown from 34 students in spring 1990 to 91 students in spring 1992.

The department's annual allied health careers fair, now in its fourth year, has become a springtime tradition on campus. Representatives from more than 100 different health care agencies and institutions typically arrive early and stay late to talk to allied health students and prospective students about career opportunities.

Thorpe said the department is working hard to appeal to minority students. "Our long-range goal is to have minorities on every rung of the academic ladder. We are steadily bringing minority students into the pipeline."

"We've been fairly successful in attracting minority students into the Division of Rehabilitation Counseling," said Robert Sakata, Ph.D., division director. "In industry, the less skilled jobs have the highest risk for severe injury, and minorities make up the largest percentage of that segment of the work force. There is a real value in having counselors who have had similar life experiences and can identify with the emotional needs of their patients and clients."

Yoder says he is especially pleased that "all of our allied health programs have received maximum accreditation by their respective accrediting bodies." He attributes

Photo by Jay Mangum

*Linda R. Watson, a clinical instructor, helps make learning fun for Thomas Lee, a student in the language preschool program offered by the Division of Speech and Hearing Sciences.*

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## Department Was Built a Piece at a Time

While some allied health training programs like cytotechnology have been around since the opening of N.C. Memorial Hospital in 1952, the Department of Medical Allied Health Professions in the UNC School of Medicine, is just over 20 years old.

Established as a unit of the School of Medicine in 1970, the department was formed with the consent of the hospital and the medical school to formally separate educational activities and clinical services.

Physical Therapy and Radiologic Science became the first two divisions of DMAHP in 1971. Clinical Laboratory Science (known as Medical Techology at the time) followed a couple months later. Rehabilitation Counseling was transferred to the division from the School of Education in 1974. Occupational Therapy was added in 1975, Cytotechnology in 1976 and Speech and Hearing Sciences in 1980.

David E. Yoder, Ph.D., who became department chair in 1986, said UNC is gaining national recognition for its graduate-level programs in Physical Therapy, Occupational Therapy, Rehabilitation Counseling and Speech and Hearing Sciences.

"Our most critical needs—what will govern our ability to grow and expand—are physical space for more laboratories, classrooms, treatment areas and offices and financial resources," Yoder said. "Like other units of the medical school, there are limitations to what we can do with 'limited resources.'

"Also, we will continue to explore opportunities with UNC Hospitals and other health care organizations to strengthen clinical relationships with our faculty."

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Photo by Jay Mungum

*Vicky A. LeGrys, D.A., right, director, Division of Clinical Laboratory Science, helps student Kristine Lawson perform analysis for glycosylated hemoglobin in the clinical chemistry laboratory classroom.*

the distribution and retention of all health care professionals in North Carolina, not just the physicians."

The role of the allied health professional has changed over time. "In the laboratory setting, we know physicians are relying on the cytotechnologists more and more," Renwick said. "Cytotechnology has become more sophisticated as its applications have expanded, requiring that the cytotechnologist possess a greater fund of knowledge than 10 years ago."

Sekerak said that in the 1950s and early '60s, "a physician's orders might have read: 'Back massage, ultrasound and Williams Flexion exercises.' Now, the physician will write: 'Evaluate and treat.' This has given PTs much more autonomy and responsibility for assessment."

On the national level, retention of allied health faculty is a major concern. Many allied health professionals with advanced degrees can earn nearly as much in a hospital as Ph.D. faculty.

"Fortunately, UNC has been able to sustain a solid and well-respected faculty," Yoder said. "The reputation our program enjoys nationally is outstanding, and we benefit from our association with a university that stands for excellence. And, there's something to be said for the quality of life in Chapel Hill and the mild climate here."

Another measure of faculty expertise is productive research, and Yoder says he is especially pleased with new work being turned out in the department.

A sampling of ongoing research in the department includes studies on children who suffer chronic middle ear disease, hearing changes related to age, voice disorders due to cancer, stuttering, the effects of isokinetic exercises on stroke patients, physical therapy for sports injuries, exercise effects on fetal movement in pregnant women, soft tissue injuries, image quality enhancement in radiography, rehabilitation of patients with head injuries, biotechnology and genetic disorders.

One of the most promising research projects involves the work of the department's Carolina Literacy Center, where researchers are addressing the literacy problems of children and adults with severe speech and physical impairments. David Koppenhaver, Ph.D., associate director of the center, said there are a half-million students with cerebral palsy in the U.S. public schools, and well over half have literacy problems.

"So little has been done educationally for these children, and there is no reason why they shouldn't be able to read and write at much higher levels," Koppenhaver said.

Literacy Center investigators have been developing a pre-school curriculum as well as a computer-based teaching tool for older children and adults with cerebral palsy. "We hope to use these models to broaden the scope of literacy instruction to include children with severe disabilities and to explore applications to other individuals with developmental disabilities," he said.

Looking to the future, Yoder predicts: "The strong demand for more allied health professionals will carry well into the next decade, and we can expect the market for our graduates to continue to be high. The faculty is fully committed to ensuring that the quality of education delivered to our graduates remains at the highest level possible."

## Allied Health Educational Programs

**Cytotechnology** offers a one-year, post-baccalaureate certificate program.

**Radiologic Science** offers three, one-year advanced certificate programs for certified diagnostic radiologic technologists—in Medical Sonography, Radiation Therapy Technology and Nuclear Medicine. The division also offers a four-year B.S. program.

**Clinical Laboratory Science** offers a four-year B.S. program.

**Physical Therapy** currently offers programs at both the B.S. and M.S. levels, but a new Master's of Physical Therapy program will begin in 1994, phasing out the baccalaureate program.

**Occupational Therapy** offers a two-year M.S. program.

**Rehabilitation Counseling** offers a two-year M.S. program.

**Speech and Hearing Sciences** offers a two-year M.S. program that enables students to become speech-language pathologists or audiologists.

# Family Day Provides Glimpse Of Life at Medical School

**By Barbara J. Proujan**

On October 26, almost every seat in 103 Berryhill Hall was filled. Some people were talking amongst themselves, others were sitting quietly. But the group was not a typical class of medical students preparing to hear another lecture.

Instead, the room was filled with mothers, fathers, sisters, brothers, wives, husbands, aunts, uncles, grandparents and children with one thing in common—they are related to a first-year student in the School of Medicine of the University of North Carolina at Chapel Hill.

The crowd was gathered for Family Day, which was an opportunity to show family members what a typical day is like in the life of a first-year medical student.

The day, which was hosted by the Medical Foundation of North Carolina, Inc. and The Co-Founders' Club, began in the Basic Sciences Building, where the medical school students 'live' for the first two years of their education. Later the group toured the medical school, UNC Hospitals and the Health Sciences Library, before enjoying a luncheon.

Family Day was held to show the school's pride in its students, said James L. Copeland, executive director of the Medical Foundation. "We're very proud of our students. They've been carefully screened and they're number one. We know the parents are proud of them, too. We wanted to have the opportunity to bring all this pride together," he said.

"We took the opportunity to share our views of what it is like to be a medical student here," said Stuart Bondurant, M.D., dean of the medical school. "As a parent I know the thrill, the respect and a little element of surprise that is in store for each of you. As parents and other family members of first-year medical students, you are about to see the most wonderful metamorphosis in biology. These first-year students, in a few short years, will walk across the stage as M.D.s."

Noelle Granger, Ph.D., assistant dean of student affairs, explained to the families of 55 of the first-year students that what they were experiencing—sitting in a room next to strangers, listening to lectures—was similar to what the students went through when they first came to UNC-Chapel Hill. Cheryl F. McCartney, M.D., associate dean of student affairs, discussed the resources available for students.

This glimpse of what medical school is like was the first for most of the group.

When first-year student Christopher D. Ingram of Greensboro came to UNC in August for his orientation tour, Gladys Ingram, his mother, was too sick to attend. "I was depressed that I didn't have a chance to see where he was going to spend quite a few years," she said. "I wanted to see how it is with something he loves so much.

"UNC's School of Medicine is a good school," she said. "I had visited the campus before, but I hadn't seen any of the

Photos by Dan Crawford

*First-year medical student Debra J. Beavers McCormack (far right) introduces her parents, Harold and Louise Beavers (left) to Carol Gibbs' mother, Betty W. Gibbs, during Family Day. Carol Gibbs is also a first-year medical student.*

medical school. This (Family Day) has put me more at ease, seeing the faculty, the classrooms, and getting an overview of what's going on. It is better than a book describing it. You understand it better when you see it yourself. Meeting his classmates and lab partner has made a big difference."

One of the older students in the class, Debra J. Beavers McCormack from Jacksonville, said she has wanted to be a doctor for a long time, but she didn't pursue this when she graduated, because at the time "women were supposed to be just homemakers."

Her husband of more than 20 years, Chief Warrant Officer 3 J.C. McCormack, is a Marine and together they have traveled all over the world. He recently retired and moved to Chapel Hill to support her dream of becoming a doctor. "Debbie has wanted to be a doctor for 20 years. She has always been goal-oriented and always achieved those goals," he said.

Some of those achievements include, becoming fluent in Japanese, being a co-anchor on a Japanese television morning program called "Scramble 8," and refereeing Atlantic Coast Conference women's basketball games.

"I'm just getting around to doing what I should have done 20 years ago," Debbie said. "I've had wonderful support from my family, but it's a bit of a problem getting into the study mode. Having had a 'normal life,' it is difficult being a medical student because my life isn't 'normal' anymore."

Stephen L. Schmidt of Wilson, who will be the first doctor in his immediate family, said he has "known since birth" that he wanted to be a doctor.

"In the first grade he wrote a paper stating that he wanted to be a doctor when he grew up," said Pat Schmidt, his mother. "Stephen wanted to go to medical school at UNC-Chapel Hill because he had been an undergraduate here and knew and loved the town."

"The low cost was an additional attractive feature," he said. "I love the program. It is low-pressure, the information is presented in a variety of ways and there is the opportunity to make the program suit yourself."

Chris Ingram agrees. "I'm totally impressed with the program and I would recommend it to others. I don't think it (being in medical school) has changed me, not yet. You have to organize your time better, but if you're used to studying you can adapt. You also learn to value your free time more."

The screening process to enroll in the program is vigorous, Elizabeth Mann, M.D., associate dean for admissions, explained to the families. For this class, the University received 551 applications from persons in-state and 1,835 from those out-of-state. These numbers were pared down to the final 144 in-state students and 16 from out-of-state.

*Fourth-year medical student Victoria Lackey gives parents of first-year medical student the grand tour.*

Of those out-of-state students, Andrew J. Creager's relatives came the farthest distance for Family Day. Patricia, Jeffrey, John, and Nicole Creager drove down from Bemus Point, NY, the night before.

Mike Applegate, a first-year student, stayed home in Durham with his two young sons, so that his wife Tammy could attend Family Day. "Mike tried to describe what this (medical school) was like, but there's nothing like seeing it," she said after viewing the human anatomy laboratory.

He is one of the six students in the class of 160 with a Ph.D. For 10 years he had been performing Alzheimer's disease research at Johns Hopkins University, but said he wanted to have more direct contact with people's lives. When he decided two years ago to get a medical degree, the Applegates sold their house in Maryland and moved to North Carolina. Now Tammy Applegate runs a computer desktop publishing company out of her home and takes care of their children, while Mike Applegate studies. "I've considered having Mike's mail forwarded to 103 Berryhill because he spends so much time here," she said.

In addition to having the medical school tour and the luncheon, family members received a copy of *The Pfizer Guide to Medical Career Opportunities* (to help them understand the various medical specialties), and "Grapevine, Greens, and Gunners: a guide to medical school from the partner's point of view," the aim of which is to cover 'all of the things that no one told you' about having a medical student.

As the booklet states, "although these family members are not medical students, medical school will be a major influence on their lives."

Family Day helped make medical school a little more understandable. For starters, family members learned that the "Grapevine" is the UNC Hospitals cafeteria, "greens" are the surgical scrub suit worn during surgical or OB/GYN procedures and "gunners" are overachievers who are totally preoccupied with studying.

# Development Notes

## Alumni Loyalty Fund Giving Edges Closer to Goal

Gifts to the UNC School of Medicine's Loyalty Fund have reached nearly $210,000, as of early February.

"This represents 88 percent of our $240,000 goal," said John W. Foust, M.D. '55, of Charlotte, national campaign chair. "If we finish strong down the stretch, I'm confident we will go over the top by June 30, the end of the fiscal year.

"Our current participation level is 17 percent, compared to a goal of 25 percent," Foust said. "I believe that if we increase the number of givers, the dollars will take care of themselves.

"In comparison, about 68 percent of the Duke University medical alumni contribute to their annual campaign and about 49 percent of the Bowman Gray graduates give to their campaign. We would like to begin to close the gap on these two institutions."

William E. Easterling Jr., associate dean for alumni affairs, said Loyalty Fund contributions help support ongoing programs for students, faculty and alumni by providing funding for scholarships, the Whitehead Society and the student research publication. Special recipients of funds this year will be the UNC Health Sciences Library and the medical school's Women in Medicine program.

The spring alumni banquet marks the conclusion of a special Loyalty Fund Challenge involving those alumni living in Guilford and Mecklenburg counties. Co-chairs of the steering committees are: Otis N. Fisher Jr., M.D. '59, and Shahane R. Taylor Jr., M.D. '59, of Guilford County, and Darlyne Menscer, M.D. '79, and Mack W. White III, M.D. '79, of Mecklenburg County.

As of early March, Mecklenburg alumni held a slim 1 percent participation edge over their Guilford colleagues. "This is a very tight race, and is likely to come down to the wire," said Jane M. McNeer, director of development with the Medical Foundation of North Carolina, Inc. Guilford County alumni won the initial challenge last year.

"We have another friendly competition under way between the 30-year reunion class (1962) and the 25-year reunion class (1967)," McNeer said. "Right now, the 30-year class has a slight advantage, but both classes are reporting better than 50 percent participation with still some time to go."

Chairs of the reunion class steering committees are Lawrence M. Cutchin, M.D. '62, of Tarboro, and James D. Hundley, M.D. '67, of Wilmington. For the reunion campaigns, McNeer said Loyalty Fund contributions as well as other gifts to the UNC medical school are counted in the final tally.

## Steering Committees

**Class of 1962**
Lawrence M. Cutchin, M.D., *Chairman,* Tarboro, NC
Karl L. Barkley, M.D., Greensboro, NC
William S. Bost Jr., M.D., Greenville, NC
Joseph H. Callicott Jr., M.D., Lynchburg, VA
H. Gerard Hartzog III, M.D., Raleigh, NC
Edward M. Hedgpeth Jr., M.D., Durham, NC
Arthur S. Lynn Jr., M.D., Conover, NC
John L. Monroe, M.D., Pinehurst, NC
Kenny J. Morris, M.D., Wilmington, NC
Carl S. Phipps, M.D., Winston-Salem, NC
William R. Pitser, M.D., Winston-Salem, NC
J. Flint Rhodes, M.D., Raleigh, NC

**Class of 1967**
James D. Hundley, M.D., *Chairman,* Wilmington, NC
George R. Avant, M.D., Nashville, TN
John L. Currie, M.D., Glen Arm, MD
Vartan A. Davidian Jr., M.D., Raleigh, NC
Ormond D. Grice, M.D., New Bern, NC
Harvey J. Hamrick, M.D., Chapel Hill, NC
Howard D. Homesley, M.D., Winston-Salem, NC
Lattie F. Honeycutt Jr., M.D., Raleigh, NC
Linda H. Jackson, M.D., Arden, NC
Hugh T. Lefler Jr., M.D., Fort Worth, TX
Robert W. Madry Jr., M.D., Corpus Christi, TX
Joseph T. McLamb, M.D., Goldsboro, NC
Donald H. McQueen III, M.D., Rock Hill, SC
Harold B. Owens, M.D., Danville, VA
B.J. Parks, M.D., Golden, CO
Gerald Pelletier Jr., M.D., New Bern, NC
Bruce A. Phillips Jr., M.D., Elizabethtown, NC
Benjamin K. Ward Jr., M.D., Florence, SC

**Mecklenburg County**
Darlyne Menscer, M.D. '79, *Co-Chair*
Mack W. White III, M.D. '79, *Co-Chair*
Julian S. Albergotti, M.D. '55
Walter B. Beaver, M.D. '84
Thomas W. Benton, M.D. '83
Robert W. Brawley, M.D. '59
William G. Clark, M.D. '78
Charles H. Edwards, M.D. '73
J. Thomas Fox Jr., M.D. '60
J. Stuart Gaul Jr., M.D. '44
William M. Herndon, M.D. '81
P. Neil Howell, M.D. '66
Luther W. Kelly Jr., M.D. '46
David S. Lennon, M.D. '75
Jonathon O. Mclean, M.D. '71
John H. McMurray, M.D. '76
James C. Parke Jr., M.D. '54
W. Ray Samuels, M.D. '61
Timothy G. Saunders, M.D. '81
J. Lewis Sigmon, M.D. '66
W. Robert Story, M.D. '58
Richard L. Wing, M.D. '76
John A. Young II, M.D. '60
James A. Yount, M.D. '66

**Guilford County**
Otis N. Fisher Jr., M.D. '59, *Co-Chair*
Shahane R. Taylor Jr., M.D. '59, *Co-Chair*
William H. Gamble, M.D. '76, *Vice-Chair*
John F. Lynch, M.D. '42, *Vice-Chair*
W. Ronald Neal, M.D. '75, *Vice-Chair*
Robert E. Sevier, M.D. '66, *Vice-Chair*
William R. Stafford, M.D. '56, *Vice-Chair*
H. Wallace Baird, M.D. '69
Karl L. Barkley, M.D. '62
Paul D. Barry, M.D. '76
Mary John Baxley, M.D. '82
H. John Bradley Jr., M.D. '57
Paul W. Coughlin, M.D. '78
Philip C. Deaton, M.D. '66
Gary M. Henschen, M.D. '75
Edgar W. Little, M.D. '71
Harold A. Nichols, M.D. '76
James C. Osburne, M.D. '83
V. Edgar Paul, M.D. '76
David M. Rubin, M.D. '68
Martha K. Sharpless, M.D. '59
Palmer F. Shelburne, M.D. '55
Ernest B. Spangler Jr., M.D. HS
Robert A. Wainer, M.D. '84
William J. Weatherly, M.D. '70
Fred H. Wilson, M.D. '82

*Bicentennial Campaign leaders: Co-chairs Richard A. Urquhart Jr. of Raleigh and Adelaide Holderness of Greensboro with chair James H. Millis Sr. of High Point.*

## Bicentennial Campaign Nears Midpoint in Drive

The UNC School of Medicine's Bicentennial Campaign is gaining momentum toward its goal of raising $47 million.

James H. Millis Sr. of High Point, chair of the campaign steering committee, reports that medical school giving to date is about 48 percent of goal. "We are generally pleased with the response so far in the major gifts phase of the campaign, but we still have a long way to go," Millis said. "We plan to accelerate the campaign this spring and have high hopes that we will reach our dollar goal."

He and steering committee co-chairs Adelaide Holderness of Greensboro and Richard A. Urquhart Jr. of Raleigh, have announced the selection of seven other committee members. They are: Kelly Bowles and Brent Elmore of Greensboro; Nathaniel T. Harris Jr. of Whitsett; R.P. "Sandy" McClamroch Jr. of Chapel Hill; Hector MacLean of Lumberton; Joseph D. Russell, M.D., of Wilson; and Doc J. Thurston Jr. of Charlotte.

## Burroughs Wellcome Co. Contributes To Bicentennial Campaign

The UNC-Chapel Hill School of Medicine will recieve $500,000 as its part of a $1.45 million pledge to the Bicentennial Campaign for Carolina from Burroughs Wellcome Co.

The contribution will go to establish the Burroughs Wellcome Graduate Scholar Award in which one doctoral and one medical student will be selected annually, said Howard J. Schaeffer, president of the Burroughs Wellcome Fund, a private nonprofit foundation supported by Burroughs Wellcome Co. The doctoral student will work in one of the medical school's six basic science departments and will receive a supplemental training stipend for five years. The medical student will receive a stipend for two years and participate in a scholars program that will provide additional research experience.

*Dean Bondurant welcomes Joseph Dwight Russell, M.D. '69, who was recently installed as chairman of the Medical Alumni Endowment Fund Board. Russell practices nephrology and internal medicine in Wilson.*

# News Briefs

## New Black Bag Helps Save Children's Lives

One size does not fit all when it comes to providing emergency medical care to children because the amount of medicine and the size of the equipment used is determined by weight. Often in an emergency situation, however, a child's weight is unknown and children vary greatly in size, ranging from 7-pound infants to 120-pound teenagers.

To address this problem and enable emergency care professionals to provide quick and accurate medical attention to children, there are two new tools—a color-coded measuring tape and a revised doctor's black bag that holds medical equipment.

The black bag, which looks more like a gym bag than a traditional medical bag, has color-coded pockets that match the colors on the tape. The bag zips open and the pockets unfold for easy access, much like a credit card holder in a wallet. Using the color-coded pockets, emergency personnel can efficiently organize the airway tubes that are used in medical emergencies.

The tape enables health care personnel to quickly determine how much children weigh by measuring their length.

"Length is a very good predictor of weight," said Arno L. Zaritsky, M.D., associate professor of pediatrics and director of the Pediatric Intensive Care Unit at the UNC Hospitals, who provided technical assistance for the development of the tape.

The tape is divided into 33 different sections. Each section lists the average weight for that height and the correct amount of emergency drugs that a child that weight needs. This quick reference guide eliminates the need to calculate drug doses.

Several weight sections also are combined under one of eight colored zones. If a child's height is in the orange section, for example, emergency personnel know that the airway tube in the orange pocket is the right size to use.

Before the tape was invented by James Broselow, M.D., an emergency medicine physician in Hickory, if a child's weight was unknown, emergency medical personnel referred to cumbersome charts or calculated the weight from complex mathematical formulas.

In a medical emergency, performing the calculation robs precious time needed to save a life.

According to Zaritsky, the pressures of the moment may compound the risk of mathematical error. "The decimal point can end up in the wrong place. I've seen calculated doses that were 10 times too high or 10 times too small. You have to hit the dose in the right ball park; otherwise these kids get into trouble," he said. Too small a dose and the problem is not treated; too large a dose and the child could die.

"The tape takes away one of the big anxieties of dealing with children—having to remember the drug dosages and then do the correct calculations based on the child's weight," said Zaritsky.

Photo by Bruce Rinne

*Color-coded pockets in the doctor's black bag efficiently organize medical equipment and correspond to colored areas on a tape that provides children's weights.*

Problems also can arise when the wrong size airway tube is used: tubes that are too large can damage a child's throat; tubes that are too small do not allow the health care provider to help the child breathe properly because air escapes around the side of the tube.

Other information listed on the tape includes how to resuscitate a child and information about medicines used to immobilize a child's throat so that a breathing tube can be inserted, as well as the amount of medicine needed to maintain proper blood pressure levels in a child with shock.

Zaritsky is distributing the bag and the tape to 125 acute care hospitals and six helicopter transport programs across the state with funds from a grant from the Bureau of Maternal and Child Health. The project is part of a statewide program to improve emergency medical services to children. North Carolina will be the first to distribute the bag and tape statewide.

Emergency personnel, however, are not the only people who can benefit from having the tape and the bag. According to Zaritsky, "any physician in an office practice who sees children, every emergency department, every specialty clinic and every advanced life-support provider, paramedic and other emergency transport personnel can benefit from having these items."

The bag and the tape are distributed by Armstrong Medical Industries, Inc. of Lincolnshire, IL.

## UNC Performs 1st Liver Transplant

Hartwig Bunzendahl, M.D., professor of surgery and chief of the liver transplant program at UNC Hospitals, performed the institution's first successful liver transplant in October.

The patient, Charlie L. Baker, 29, of Clover, SC, was discharged after a three-week hospital stay. "There were no complications; everything went very smoothly, and the entire surgical team can take pride in this milestone for the transplantation program here at the UNC medical center," Bunzendahl said.

UNC Hospitals is now one of about 50 U.S. medical centers that perform liver transplants, according to Bunzendahl. He came to the UNC School of Medicine last year from Hannover University Medical School in Germany to initiate adult and pediatric liver transplantation as an extension of the UNC Hospitals' comprehensive organ transplantation program that now includes kidney, heart, lung, heart/lung and liver transplant capability.

George F. Sheldon, M.D., chair of the Department of Surgery, said, "We are achieving our goals one by one. We set out to recruit one of the best liver transplant surgeons in the world, and we have assembled a superb transplant team. Our objective now is to eventually perform up to 50 liver transplants per year here in Chapel Hill."

*C. Thomas Caskey, M.D., the 1991 Merrimon Lecturer, (third from left) is joined by event coordinator Maria Leon, division manager in the Department of Pathology, James A. Bryan II, M.D., professor of medicine and social medicine, and Harold R. Roberts, M.D., Sarah Graham Kenan Professor of Medicine and Pathology. Caskey, a leading genetics expert, is an investigator of the Howard Hughes Institute and director of the Kleberg Center for Human Genetics and the Institute of Medical Genetics, all of Baylor College of Medicine in Houston. He discussed "Molecular Medicine: Opportunities and Challenges."*

## Research Center Grant Renewed

The Department of Pediatrics has received renewal of a $5 million, five-year grant to study children's lung disorders.

Thomas F. Boat, M.D., chair of the Department of Pediatrics, said the grant from the National Heart, Lung and Blood Institute of the National Institutes of Health will provide funding for UNC's Pediatric Pulmonary Specialized Center of Research, one of six such centers in the nation.

"Our research objective is to understand the normal growth of the lungs and how that growth is affected when the lungs are injured by conditions such as cystic fibrosis, asthma, bronchiolitis and bronchopulmonary dysplasia," said Boat, who is also principal investigator of the grant.

Investigators are members of the pediatrics divisions of Infectious Diseases, Neonatology and Endocrinology.

## Researchers Clone Key Blood Coagulation Enzyme

Scientists at UNC have succeeded in cloning the gene for gamma-glutamyl carboxylase, an enzyme that plays a key role in blood clotting.

"Gamma-glutamyl carboxylase is required for the biological function of a number of important proteins that cause coagulation, including human factors IX, X and VII," said Darrel W. Stafford, Ph.D., professor of biology and a member of the

# News Briefs

School of Medicine's Center for Thrombosis and Hemostasis.

Stafford and UNC biology students Sheue-Mei Wu and Wing-Fai Cheung and research technician Dan Frazier authored a report that appeared in the December issue of *Science*. Their work should lead to significantly increased production of genetically engineered proteins known as clotting factors and improve treatment for hemophiliacs, Stafford said.

## Study to Improve Back Pain Treatment

Six UNC School of Medicine researchers have received a $1.5 million grant from the U.S. Agency for Health Care Policy and Research to launch a major study on back pain treatments.

"After the common cold, low back pain is the most common reason patients visit physicians," said Tim Carey, M.D., chief, General Medicine, Department of Medicine, and principal investigator for the three-year study.

In the first phase of the study, Carey and his colleagues plan to call a random sample of 2,500 North Carolinians to ask them whether they have suffered back pain last year and, if so, what they did about it.

"These calls will give us a lot of information on how many people care for their back pain on their own, how many go to physicians, how many go to chiropractors and how many use various home remedies," he said.

In the second part of the study, 25 orthopedists, 50 internists and family practitioners, 25 physicians in health maintenance organizations and 50 chiropractors will be asked to share the names and addresses of 1,500 of their low back pain patients across the state.

"We will call those patients periodically to see how they are doing, what sort of health care they have needed and how fast they get better," Carey said. "Then, in our analysis, we will look at the effectiveness of various treatments."

*Haile T. Debas, M.D., chair of the Department of Surgery at the University of California in San Francisco, presented "Reconciling the National Debate: Academic/Subspecialty Medicine vs. Primary Care" at the 12th Annual Lawrence Zollicoffer Lecture in January.*

Others involved in the study are Robert A. McNutt, M.D., and Arthur T. Evans, M.D., assistant professors of medicine; Nortin M. Hadler, M.D., professor of medicine and microbiology and immunology; and John G. Fryer, Ph.D., and William D. Kalsbeek, Ph.D., research professor and associate professor, respectively, of biostatistics.

## Researchers Study Effect of AZT on Babies

AIDS researchers at the UNC School of Medicine have begun a new study to learn whether the drug AZT can protect infants born to women infected with the AIDS virus. They also want to make sure the drug is safe for women during pregnancy.

"The main goal of our study is to see if AZT, which is also called zidovudine, will prevent babies from contracting AIDS from their infected mothers," said Wilma Lim, M.D., assistant professor of pediatrics and an infectious disease specialist. "Earlier work has suggested that about 30 percent of these infants test positive for the human immunodeficiency virus which eventually leads to AIDS."

Lim is principal investigator for the study, which is funded by the National Institute of Allergy and Infectious Diseases. Co-investigators are Charles van der Horst, M.D., assistant professor of medicine and director of the AIDS Clinical Trials Unit, and Vern L. Katz, M.D., assistant professor of obstetrics and gynecology.

The study at Chapel Hill is part of a national study that will eventually enroll 748 pairs of mothers and infants. Fifteen medical centers are participating in the research, and 15 to 25 other centers may become involved.

## Scientists Find New Cancer Gene

UNC researchers have isolated and cloned a previously unknown oncogene that appears to play a key role in the development of leukemia.

The new oncogene, one of about 60 that have been identified around the world, is the first cancer-producing gene that has been found in North Carolina, said Edison T. Liu, M.D., assistant professor of medicine and genetics and leader of the study. More importantly, it could lead to a better understanding of genes involved in leukemias and certain other cancers.

Further experiments enabled the scientists to clone the oncogene, which they named axl, and determine its structure.

Liu reported the findings in the October issue of the *Journal of Molecular and Cellular Biology*. H. Shelton Earp, M.D., professor of medicine and pharmacology,

graduate student John P. O'Bryan, postdoctoral fellow Roy A. Frye, M.D., and medical student Barry Kitch were also authors of the report.

## UNC Professor Writes Book on Advance Directives

Health-care providers and others are reaching for a new book written by a UNC School of Medicine professor that clarifies the issues surrounding advance directives.

Nancy M.P. King, J.D., assistant professor of social medicine, explores the moral and legal force of advance directives in her book, *"Making Sense of Advance Directives."*

Published in September, the book preceded the implementation of the Patient Self-Determination Act, which requires health-care institutions that receive Medicare and Medicaid funds to give patients information about advance directives.

## New Clinic Offers Medical Assistance to Travelers

The UNC medical center has opened a Travelers' Health Clinic to offer medical assistance and advice to people traveling abroad, especially to Third World and developing countries.

The clinic addresses health issues such as immunizations, avoiding parasites and food poisoning, purifying water, traveling with children and managing health problems while away from home.

Travelers' Health Clinic physicians look at each patient's itinerary in relation to immunization laws and epidemics.

"A lot of people don't realize the serious health risks they take when they travel to Third World countries," said Desmond Runyan, M.D., Ph.D., assistant professor of pediatrics and head of the preventive medicine residency program. "Because they don't know about diseases such as cholera, yellow fever or malaria that are common in certain parts of the world, they don't take the necessary precautions against them."

*William B. Blythe, M.D., Marion Covington Distinguished Professor of Medicine and chief, Division of Nephrology, is joined by Mrs. Norma Berryhill and Dean Bondurant after delivering the 1991 Norma Berryhill Distinguished Lecture. His topic was "Esse Quam Videri: The Essence of the University and the Medical School."*

## UNC Researcher Develops New Technique for Gene Replacement Therapy

In the future, people with genetic diseases may be cured when a normally functioning gene is added to cells with a defective gene.

A major problem with this therapy—at least until now— has been getting the new gene to the cells with the nonfunctioning gene.

A research technique developed by Jean-Michel H. Vos, Dr.Sc., assistant professor of biochemistry and biophysics, however, enables large pieces of normally functioning human DNA to be moved efficiently from cell to cell without damaging the genetic material. "Until now, this had been impossible to do," he said.

Vos' technique uses Epstein-Barr virus, one of the largest known viruses, as a vehicle to transport replacement genetic material.

Using genetic engineering methods, Vos replaces almost all of the virus' DNA with normally functioning human DNA; thus creating a mini-virus. "Because we can replace 90 percent of the viral DNA with any kind of DNA, we now have a very large vehicle capable of carrying most human genes," said Vos, who also is a member of the Lineberger Comprehensive Cancer Center.

The mini-virus enters the cell with the abnormal gene and commandeers the genetic machinery of the cell—in essence turning the cell into a viral DNA-reproducing factory, only in this case the DNA that is made is the previously nonfunctioning human gene.

The procedure has not yet been used in either animals or humans; all of the genetic tinkering takes place in cells grown in Vos' laboratory.

Vos hopes that someday the altered cells would be administered to a person with a genetic disease caused by the absence or

# News Briefs

*Second-year medical student Sujata V. Ghate, a 1991-92 recipient of a Holderness Medical Fellowship, is congratulated by Adelaide Holderness after the Holderness Medical Fellowship Program Annual Recognition Banquet. Other winners were: second-year students Eric S. Bachman, Frank A. Frenduto, Nicklas Oldenburg, Nitin P. Shenoy and Jorge A. Simental; third-year students Brian E. Brigman and David S. Leslie; fourth-year students Gerald E. Cooley, Elizabeth Creech, Douglas K. Graham and Barrett T. Kitch.*

malfunction of a particular gene. The gene replacement therapy would then cure the disease. According to Vos, infecting cells in culture is not a problem because there is no immune system to fight off the virus, but "work in humans is far down the road and must proceed cautiously."

Vos is using the technique to find where the genes responsible for two different inherited disorders are located on human chromosomes. People with either of the two diseases, Fanconi anemia and xeroderma pigmentosum variant, have a higher risk for getting cancer. Once either of the genes is isolated it will be easy to determine its function and learn what the genetic defect is, then the gene can be replaced, he said.

In addition to this research, Vos is in the midst of making many mini-viruses, each containing different pieces of human genetic material. He envisions that soon an entire collection, or library, of mini-viruses with various DNA fragments containing all human genetic material will be available.

"Such a library would be a valuable resource that would enable scientists to map where different genes are located on human DNA, to isolate the genes for further study and to determine their function," Vos said.

## Specially Developed Cells Help Researchers Study Neurological Disorder

UNC researchers have used genetic engineering techniques to create special cells that will enable them to study how nerves become covered with myelin. The study, which was reported in a recent issue of the *Journal of Neuroscience Research*, may benefit people with the neurological disorder multiple sclerosis.

"Because of the complexity of our nervous system, information about how nerve cells become surrounded with myelin is not easily accessible," said Brian Popko, Ph.D., assistant professor of biochemistry and biophysics.

"These cells should allow us to more easily examine myelin at the molecular and biochemical level and allow us to manipulate genes that are expressed during myelination and see what effect they have on the process."

Myelin is a fatty substance that surrounds a part of the nerve called the axon. Nerve cells quickly communicate their signals with each other with the help of myelin.

In multiple sclerosis patients, for an unknown reason, white blood cells attack the myelin sheath, erratically destroying it in different areas of the body. The result is that nerve signals normally traveling at 225 miles per hour between cells are considerably slowed. Although the nerve signal still moves from cell to cell, it is weaker and takes longer to reach its destination.

Usually the symptoms of multiple sclerosis, such as visual problems, dizziness and muscle weakness, appear and disappear until patients become progressively sicker as more myelin is affected.

"Patients with multiple sclerosis undergo phases of demyelination and remyelination. Eventually the demyelination becomes progressively more severe and they are less able to remyelinate their axons and their conditions worsen over time," Popko said.

"We are interested in learning how these patients are able to remyelinate their axons in the first place, and why, with time, this ability diminishes," he said.

To study the myelination process, Popko had to develop special cells capable of producing the substance because normal laboratory-grown cells do not produce it.

"The genetically-altered cells undergo a process in which they differentiate into myelin-producing cells. By mixing the cells with axons we hope that the cells will be able to myelinate them in culture. This will enable us to see what the cells do at the molecular level," he said.

Popko hopes that the laboratory-grown cells will provide an understanding of how nerve cells become myelinated and also information about myelin in general, such as what holds it together.

"If we can find out what makes the [myelination] process more efficient in culture we may be able to duplicate this in multiple sclerosis patients." Currently no effective treatment exists.

Popko stressed that these studies are preliminary and currently are not directly applicable to people.

Collaborators in the research effort are Kinuko Suzuki, M.D., professor of pathology, and Carol Hayes and Donna Kelly from the Brain and Development Research Center.

## Potential AIDS Drug Developed at UNC

A new form of a drug already in use appears to be extremely promising for treating a type of pneumonia that is the leading cause of sickness and death in AIDS patients.

Created by researchers at UNC-Chapel Hill, the new drug is an improved version of pentamidine, which is used to treat Pneumocystis carinii pneumonia (PCP).

"This new drug appears to be 10-times more potent in killing the organism that causes Pneumocystis carinii pneumonia than pentamidine is," said one of the drug's creators, Richard R. Tidwell, Ph.D., professor of pathology.

In most people the single-celled organism responsible for PCP lives harmlessly in their lungs. But because the immune system, which fights off infections, is so weakened in AIDS patients they cannot keep the organism under control. More than 65 percent of AIDS patients develop PCP.

"In patients who lack an immune system, the organism proliferates and causes massive infestation; their lungs are almost completely clogged with the organism," Tidwell said.

Because PCP is so insidious and the currently available drugs to treat it can cause serious side effects, Tidwell and the other UNC researchers were funded by the National Institutes of Health to develop new drugs.

The investigators created more than 100 versions, or analogs, of pentamidine. Several analogs affect the disease-causing organism in a similar manner, but have structural differences from one another.

The researchers hoped to develop a drug that was less toxic than pentamidine is to humans, but more toxic to Pneumocystis carinii.

"Very little was known about pentamidine before it was studied here. We now have important clues as to how the drug works, how it is distributed in the body and that it is transformed in the body to at least eight metabolites," Tidwell said.

"A better understanding of pentamidine enabled us to design specific drugs with the same mechanism of action, but with more potency and less toxicity than the parent drug." Of the hundred analogs created, "at least a quarter are statistically more potent than regular pentamidine," he said.

Currently DMP, which is the most potent of the drugs developed by the researchers, has only proven its effectiveness at treating Pneumocystis carinii pneumonia in a laboratory setting.

In addition to being useful in treating pneumonia, DMP and some of the other analogs may be beneficial in treating other diseases caused by different organisms, including two diseases that cause diarrhea: giardiasis and cryptosporidiosis.

Other ailments that may be treated with the analogs include leishmaniasis, which causes skin ulcers; toxoplasmosis, which resembles mononucleosis; and malaria — especially against the forms of the disease that are resistant to current therapies.

## Lineberger Honors Legislators

Two North Carolina legislators have received the first North Carolina Leadership Award from the UNC Lineberger Comprehensive Cancer Center.

Rep. Anne C. Barnes of Chapel Hill and Sen. Helen Marvin of Gastonia were honored in November by the center's Board of Visitors, an advisory group of citizens from across the state and the Southeast.

The award recognizes leadership, dedication and service in advancing the prevention and control of cancer in North Carolina.

Barnes and Marvin were instrumental in securing passage of legislation that took effect January 1 requiring mammogram and Pap Smear coverage for women in health and accidental insurance policies, hospital or medical service plans and health maintenance organization plans.

## Prostate Cancer Update Part of Alumni Weekend

The rate of prostate cancer, which currently develops in one out of every 11 men, is increasing faster than the rate for other cancers.

Attendees of a prostate cancer conference, which was held as part of the UNC School of Medicine's Fall Alumni Weekend, also learned about screening and treatment controversies associated with prostate cancer.

# News Briefs

Susan Maygarden, M.D., assistant professor and director, cytopathology at UNC, said that detecting premalignant lesions in the prostate may help doctors identify men at risk for developing prostate cancer.

"The lesions, called prostatic intraepithelial neoplasia (PIN), are probably the precursors of most prostatic cancers," Maygarden said. "Doctors should familiarize themselves with PIN's identifying characteristics."

To help doctors better diagnose PIN, she described the three grades of premalignant lesions and some scientific evidence indicating that the cells may be precursors of prostate cancer. For example, the most severe form of the lesions is associated with 70 to 100 percent of malignant prostate cancers.

"A diagnosis of the most severe type of PIN should lead to a hunt for prostate cancer," to reduce the morbidity and mortality associated with the disease, she said.

## Nursing Recognition Award Winners Named

The UNC School of Medicine honored six UNC Hospitals nurses recently for "superior nursing achievement" and outstanding service in their work areas.

Winners of 1991 Nursing Recognition Awards were: Linda Bailey, R.N.C., nurse coordinator for the Assisted Reproductive Technologies Program; Anne Flash, R.N., MSN, clinical instructor in the Program on Aging and Department of Medicine, Division of General Medicine; Sue Forloines-Lynn, R.N., clinical nurse in the Department of Pharmacy; Ernest Grant, R.N., clinical nurse in the North Carolina Jaycee Burn Center; Valerie Stafford, R.N., OCN, clinical nurse supervisor for inpatient general medicine/oncology; and Cyndee White, LPN, clinical nurse in the Otolaryngology Clinic.

"These honorees exemplify the highest of standards," said Dean Stuart Bondurant. "Each of these individuals is a truly outstanding performer, and it is a privilege to work in partnership with them."

The awards, which were established in 1990 by School of Medicine faculty, are valued at $1,000 each and can be used for expenses associated with professional development or to attend scientific conferences.

## Grant to Aid Families Of Vietnam Veterans

The Clinical Center for the Study of Development and Learning has been awarded a three-year, $138,000 grant to make sure children of Vietnam War veterans get the help they need to meet life's challenges.

Called the Agent Orange Project: An Inter-Agency Coordination Network for Vietnam Veterans and Their Families, the project seeks to establish a comprehensive, statewide network for handicapped and educationally-at-risk children and families of Vietnam veterans. It will also help point families in the right direction to get the treatment they need, said project director Thomas Wasileski, M.D., a research scientist with the center.

This first-of-a-kind North Carolina project is funded by the Agent Orange Class Assistance Program. The program was created by the settlement of a lawsuit filed on behalf of soldiers exposed to Agent Orange, a herbicide used throughout Southeast Asia to defoliate jungles.

## Fall Medical Alumni Weekend Scheduled

Fall Medical Alumni Weekend is slated for October 16-17. David Moore, M.D., assistant professor of gynecologic oncology, will present a course on ovarian cancer.

For more information, contact Stephanie Stadler in the CME/Alumni Office at (919) 962-2118 or 1-800-862-6264.

## Study to Examine Consequences of Sexual Abuse

A new study aimed at helping women overcome some of the lingering physical and psychological consequences of sexual and physical abuse is under way at UNC.

"We are going to be looking at the relationship between sexual or physical abuse and poor health as measured by more severe pain, poorer daily functioning and greater use of health care," said Douglas A. Drossman, M.D., professor of medicine and psychiatry.

In the study 225 patients will be interviewed and followed up with for a year to look at the quality of their lives and how often they use health-care resources, Drossman said.

This new four-year study, which is funded by a grant from the National Institute of Mental Health, will build upon findings from an earlier survey conducted at the School of Medicine. That study determined that women who were sexually or physically abused when they were young were more likely than other women to have harder to manage stomach and intestinal problems later in life.

Others participating in the study are Jane Leserman Madison, M.D., research assistant professor of psychiatry and medicine; Timothy C. Toomey, Ph.D., clinical associate professor of psychiatry; and Gary G. Koch, Ph.D., professor of biostatistics at the School of Public Health.

# Faculty Notes

## Froehner Named Chair of Physiology

**Stanley C. Froehner, Ph.D.,** has been appointed chair of the Department of Physiology.

*Froehner*

Froehner comes to Chapel Hill from Dartmouth Medical School where he was a professor of biochemistry. He received his Ph.D. in biochemistry and neurophysiology at the California Institute of Technology in 1972 and was a research fellow at Harvard Medical School in the Department of Neurobiology from 1974-1976 and in the Department of Neuropathology from 1976-78.

As a molecular neurobiologist, Froehner has made important contributions to the understanding of how nerves connect with the muscles they stimulate. He is also an expert in new technologies of cellular and molecular biology that have a great impact on research in physiology at UNC.

"Dr. Froehner is a leader in the development of the field of neuroscience," Dean Stuart Bondurant said. "His arrival complements the strong community of neuroscientists at the School of Medicine. Under his leadership, the UNC Department of Physiology and our programs in neuroscience will underpin major developments in health care in the future."

## Tintinalli Appointed Chair Of Emergency Medicine

**Judith E. Tintinalli, M.D.,** has been appointed chair of the new Department of Emergency Medicine.

Tintinalli comes to Chapel Hill from the University of Michigan where she was a clinical assistant professor of surgery and from William Beaumont Hospital in Royal Oak where she was the director of the Emergency Medicine Residency Program. She is a graduate of Wayne State University School of Medicine in Detroit.

*Tintinalli*

Tintinalli is active in many professional organizations including the American Board of Emergency Medicine, on which she has served as director since 1982.

"Dr. Tintinalli has made important contributions to the development of emergency medicine as a specialty," Dean Stuart Bondurant said. "She is a distinguished teacher, clinician and investigator. Under her leadership, the Department of Emergency Medicine will provide essential emergency medical care to those who come to UNC Hospitals, will produce well-trained emergency physicians for the entire state and will advance the state of the art of emergency medicine."

## Marzluff Named Director Of Molecular Biology, Biotechnology Program

**William F. Marzluff, Ph.D.,** has been appointed director of the Program in Molecular Biology and Biotechnology and professor. Marzluff comes to Chapel Hill from Florida State University where he was director of the Program in Molecular Biophysics.

"Dr. Marzluff is wonderfully suited to this position," said Dean Stuart Bondurant. "He is a distinguished biologist. His personal scientific contributions are substantial and his leadership assures useful and appropriate extension of this program. He was responsible for organizing a very similar successful program at his previous institution."

Marzluff replaces Philip L. Carl, Ph.D., research associate professor in pharmacology, who was the acting director. Carl will remain involved in the program as associate director.

## Earp Named to Lineberger Professorship

**H. Shelton Earp, M.D.,** deputy director of the UNC Lineberger Comprehensive Cancer Center, has been named Lineberger Professor of Cancer Research.

*Earp*

The professorship is one of two established with a $1 million gift to the University's cancer center in 1984 from the Lineberger family of Belmont.

Earp, professor in the Departments of Medicine and Pharmacology, has been a faculty member since 1977. He is nationally recognized for his research on how growth factors and oncogenes simulate the growth of cancer cells. He currently holds research grants from the National Institutes of Health, the American Cancer Society and the Cystic Fibrosis Foundation.

## Kenan Professors Named

**Joe W. Grisham, M.D.,** professor and chair, Department of Pathology, **John C. Parker, M.D.,** professor, Department of Medicine, and **Frank C. Wilson, M.D.,** professor and chief, Division of Orthopaedics, have been named Kenan Professors in the UNC School of Medicine.

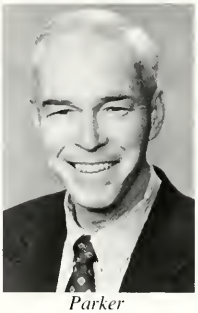
The appointments were announced by Chancellor Paul Hardin and H. Garland Hershey, D.D.S., vice chancellor for health affairs.

# Faculty Notes

*Grisham*

Grisham has chaired the Department of Pathology at the medical school and UNC Hospitals since 1973. One of the world's leaders in liver disease research, he has isolated what may be a precursor cell for the functional cells of the liver and has shown how they contribute to growth, response to injury and cancer development.

Grisham is a past president of the American Association of Pathologists and the Federation of American Societies of Experimental Biology. He has chaired the federation's Public Affairs Committee and the Environmental Protection Agency's Scientific Advisory Panel on Biotechnology. He serves on the editorial board of publications such as the *American Journal of Pathology*.


*Parker*

Parker, who attended UNC, joined the faculty as assistant professor of medicine in 1967. Patients with cancer and blood disorders are his clinical interest, while his research focuses on cell membrane transport physiology.

A fellow of the American College of Physicians, he received the Golden Apple Teaching Award from the UNC Hospitals housestaff in 1990 and has been honored four other times by staff and medical students for excellence in teaching. He serves on three editorial boards, including the *Journal of General Physiology*.

*Wilson*

Wilson, who joined the UNC faculty in 1964, was named chief of orthopaedics three years later and director of the musculoskeletal curriculum in 1971. An honors program instructor, he has taught a course on North Carolina author Thomas Wolfe for more than a decade.

His research has focused on knee replacement, ankle injuries, musculoskeletal infections and medical education. A recipient of the Nicholas Andry Award for Orthopaedic Research, Wilson was the centennial president of the American Orthopaedic Association, the world's oldest organization in that field, in 1986-87. He chaired the Council of Academic Societies of the Association of Medical Colleges in 1982-83 and the President's Council of the Orthopaedic Associations of the English-Speaking World in 1986.

## Briggaman Named 1st Wheeler Professor

**Robert A. Briggaman, M.D.,** chair of the Department of Dermatology, has been named the Clayton E. Wheeler, Jr. Distinguished Professor of Dermatology.

"I am delighted and feel highly honored that Dr. Briggaman is the first recipient of the Wheeler Professorship," said Clayton E. Wheeler Jr., M.D., who was the first chair of the UNC Department of Dermatology serving from 1972 to 1987. "Dr. Briggaman is a world class investigator, a superb clinician, a top flight teacher and an excellent administrator. He exemplifies what a department chair should be."

Dean Stuart Bondurant added, "The Clayton E. Wheeler Distinguished Professorship of Dermatology is intended to recognize academic leadership in dermatology of the highest quality as personified by Dr. Clayton Wheeler, founding chair of the Department of Dermatology. Dr. Robert A. Briggaman is just such a distinguished academic leader."

The Wheeler Professorship was established by past residents, trainees and faculty members at UNC.

A native of Hartford, CT, Briggaman is a graduate of Trinity College there, and received his medical degree from New York University School of Medicine. After completing an internship and a residency in medicine at the University of Virginia Hospital in Charlottesville, VA, he continued his postgraduate training in dermatology at UNC. In 1967, he joined the UNC faculty as an instructor of dermatology. Briggaman became professor of medicine and dermatology in 1974, and department chair in 1987.

**Thomas Egan, M.D.,** assistant professor of surgery, has been awarded the 1991 Armand Hammer Traveling Surgical Scholarship of the American College of Surgeons. The $25,000 scholarship will allow Egan to make several visits to Paris during the next two years to work with scientists at the Institut des Vaisseaux et du Sang on research studies addressing the role of the endothelial cell in von Willebrand's disease and of swine leukocyte antigen matching on the development of rejection following lung transplantation.

**Thomas M. Haizlip, M.D.,** clinical professor of psychiatry and director of the Division of Child and Adolescent Psychiatry, has been elected to a two-year term as vice chair of the committee on Certification of Child and Adolescent Psychiatry of the American Board of Psychiatry and Neurology. Haizlip, who also directs the child and adolescent psychiatry unit at Dorothea Dix, began his term in January.

**Mary Ellen Jones, Ph.D.,** Kenan Professor of Biochemistry and Biophysics, was presented the 1991 N.C. Award in Science by Gov. James G. Martin in November. Jones was recognized for her "pioneering research and discoveries, which have provided much of the foundation for the scientific understanding of the biochemical basis for living organisms." The award is one of the state's highest honors and recognizes people in the categories of fine arts, literature, science and public service.

*Jones*

**Anthony A. Meyer, M.D.,** professor of surgery, has been selected a James IV Association of Surgeons Inc. Traveling Fellow.

The association is a group of 40 surgeons from a dozen countries around the world who sponsor and finance visits of surgeons to exchange surgical knowledge and to foster friendships.

It draws its name from James IV, the fourth king of Scotland, who was noted for his interest in science. James IV also was associated with the incorporation of surgeons in Edinburgh in 1506.

**Gwendolyn B. Sancar, Ph.D.,** assistant professor of biochemistry and biophysics, has been selected to serve a three-year term as a councillor for the American Society of Photobiology. The society promotes original research in photobiology and seeks to integrate different disciplines in the study of photobiological aspects of national and international problems. A faculty member since 1982, Sancar specializes in molecular biology, recombinant DNA and repair of ultraviolet light-induced damage in DNA. She is a member of the American Society of Microbiology and the American Society of Biological Chemists.

**Thomas R. Griggs, M.D.,** professor of medicine and pathology, is the recipient of a Physician Community Service Award for 1991 given by the N.C. Medical Society. The award honors members of the society whose volunteer work within their communities has both benefited the community and reflected well on the medical profession.

*Griggs*

Griggs serves as a volunteer firefighter, a volunteer member of the South Orange Rescue Squad and a volunteer reserve police officer with the Chapel Hill Police Department.

**Michael T. Gross, Ph.D.,** assistant professor, Division of Physical Therapy, Department of Medical Allied Health Professions, has received the Margaret L. Moore Award for Outstanding New Academic Faculty Member from the American Physical Therapy Association. He was one of two recipients honored at the association's national meeting in Boston.

*Gross*

Established in 1989, the award is named for Moore, a former program director of UNC's Division of Physical Therapy, who was known as an outstanding mentor to young faculty. The award recognizes a new faculty member who has been in the field from two to five years and has expertise in at least one research and teaching area.

**Alan W. Cross, M.D.,** associate professor of social medicine and pediatrics, has been named director of the UNC Center for Health Promotion and Disease Prevention.

*Cross*

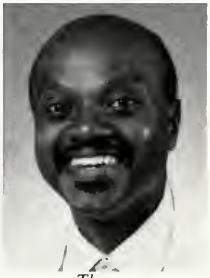
Dean Stuart Bondurant said, "Prevention must become one of the great themes of practice for all health care professions in the rest of this decade and through the 21st century. Dr. Cross will lead our institutions in our development of this major emphasis in the education and practice of the health care professions. He is a nationally recognized expert in community-based health issues."

The UNC center is one of seven in the country that receives federal funding from the Centers for Disease Control.

Cross also is co-principal investigator of the University's Health of the Public Program, a national grant program that promotes curriculum changes in medical education that reflect public and community-based health concerns. His research interests focus on infant mortality and low birth-weight prevention.

Cross received his medical degree from Columbia University and completed his residency training in pediatrics at the University of Rochester and Strong Memorial Hospital in Rochester, N.Y. He completed a fellowship in adolescent medicine at Children's Hospital Medical Center in Boston. Cross also worked for two years in the Department of Paediatrics at the University of Nairobi in Kenya and recently returned there for a one-year sabbatical.

**Robert Thorpe, Ed.D.,** associate professor of medical allied health professions, will receive the Tanner Award for excellence in undergraduate teaching at the Chancellor's Award Ceremony on April 14. He and six other award recipients, nominated by students and faculty members, each will receive $5,000.



*Thorpe*

Thorpe's expertise is in allied health education and adminstration and radiography. He has been associate chair of the Department of Medical Allied Health Professions since 1986 and director of the N.C. AHEC program's department of medical allied health professions since 1987.

## 2 Pediatric Professors Retire

Two long-time members of the faculty in the Department of Pediatrics, **Henry Neil Kirkman Jr., M.D.,** Kenan Professor of Pediatrics and chief, Division of Genetics and Metabolism, and **Judson J. Van Wyk, M.D.,** Kenan Professor of Pediatrics and former chief of endocrinology, have retired after distinguished careers at the UNC medical center.

Throughout his 26-year career at UNC, Kirkman was active in basic and applied research in laboratory and clinical settings. His areas of interest include G6PD deficiency, PKU, galactosemia, X-linked rickets, newborn ABO hemolytic disease, Rocky Mountain spotted fever, genetic counseling issues and prenatal diagnosis.

"His laboratory research has contributed greatly to the clinical care of patients," said Gerald Fernald, M.D., associate chair of the Department of Pediatrics. "Dr. Kirkman is an excellent clinician and a very astute teacher of medical students, housestaff and fellows. He continued to be very active with patient care activities until his retirement."

Kirkman has served on the editorial board of *Biochemical Genetics*, and as a member of the National Institutes of Health study sections and training committees. He also served as chair of the Genetics Study Section.

Some of the honors Kirkman received during his career include a Research Career Development Award, E. Mead Johnson Award, Kenan Professor of Pediatrics and an Alice Gray Distinguished Service Award. He was named a Kenan Professor of Pediatrics in 1977.

Van Wyk, who joined the faculty 36 years ago, was a pioneer in peptide growth factor research and a dedicated teacher who helped train more than 40 endocrine fellows during his career.

"Dr. Van Wyk developed a world-famous program for training specialists in endocrinology," Fernald said. "Clearly, he has been one of the premier researchers in the department and the medical center. His work in endocrinology has contributed significantly to the understanding of the nature and action of hormonal growth factors."

Van Wyk has served on the council and on numerous committees of the Endocrine Society, as president of the Lawson Wilkins Pediatric Endocrine Society and on numerous study sections and committees of the National Institutes of Health. He also has served as an associate editor of the *Journal of Clinical Endocrinology and Metabolism.*

For his achievements, Van Wyk has received myriad recognitions including an honorary Doctor of Science degree from Hope College (Michigan), a research career award from the National Institutes of Health and the Fred Conrad Koch Award from the Endocrine Society. He was named a Kenan Professor in 1975.

**Edward Perl, M.D.,** Sarah Graham Kenan Professor of Physiology, has won the fourth annual Bristol-Meyers Squibb Award for Distinguished Achievement in Pain Research. The $50,000 prize and silver medallion were awarded during the annual meeting of the American Pain Society in New Orleans.

*Perl*

Perl's research has demonstrated the existence of nocieptors, the sensory receptors that convey information specifically about pain-causing events. His work was called a "true milestone in the history of pain research" by one member of the selection committee.

# Class Notes

## Manning Berryhill Club

**Ira A. Abrahamson, M.D. '46,** recently received a certificate of recognition for his 35-year association with Children's Hospital Medical Center of the University of Cincinnati College of Medicine. He is an associate professor in the Department of Ophthalmology and an assistant professor in the Department of Family Medicine with the college.

**Juris Bergmanis, M.D. '56,** has recieved the Ke Kauka Po'okela Award (The Outstanding Physician) from the Queen's Medical Center in Honolulu, HI. The biannual award honors a physician whose professionalism and spirit best exemplify excellence in health care. Nominated by staff throughout the medical center, Bergmanis was described as "an extremely caring and compassionate physician," who has "a great bedside manner and family rapport and is an outstanding patient advocate."

## 60s

**Donald P. Whitley, M.D. '65,** chairs the medical staff of Johnston-Willis Hospital in Richmond, VA. He is also chair of the Department of Radiology and is on the board of trustees at the hospital.

**W. Jason McDaniel Jr., M.D. '67,** has been installed as president of the N.C. Orthopaedic Association. His is an orthopaedist at the Raleigh Orthopaedic Clinic, P.A.

## 70s

**Jerry C. Bernstein, M.D. '70,** has been named president-elect of the medical staff at Wake Medical Center for 1992. He is a pediatrician at Raleigh Pediatric Associates, P.A., and holds an appointment as clinical professor of pediatrics at the UNC School of Medicine.

**Thomas M. Bashore, M.D. HS '75,** is director of Cardiac Catherization Laboratories at Duke University Medical Center. He was recently promoted to professor of medicine and named associate director of the Duke Heart Center.

**Donald G. Gregg, M.D. '75,** is associate director, Department of Emergency Medicine in the Greenville Hospital System. He writes, "The 'old man' at our graduation has turned 50, but I still pull a full complement of night and weekend shifts in our Level I Trauma Center, as well as making daily rounds at a 27-bed detox facility. Easy does it!"

**Margery Sved, M.D. '79,** is division director of Adult Psychiatry at Dorothea Dix Hospital in Raleigh. She writes that she remains active locally and nationally in gay and lesbian health issues, including as a board member for the N.C. Lesbian and Gay Health Project and vice president of the Association of Gay and Lesbian Psychiatrists.

## 80s

**Roger D. Billica, M.D. '80,** was recently promoted to chief of NASA Medical Operations Branch at Johnson Space Center in Houston, TX. He lives at 2210 Enchanted Isle in Houston.

**Leslie E. Waters, M.D. '80,** is a shareholder physician with a family practice in rural northeast Washington. She and her husband, John Martin Lake, have a son.

**Stephen C. Peiper, M.D. '81,** serves as associate director of the James Graham Brown Cancer Center at the University of Louisville in Kentucky. An Agnes Brown Duggan Professor of Pathology, he also serves as division chief of molecular biology and genetics.

**Christie C. DaVanzo, M.D. '82,** is director of the Neonatal Intensive Care Unit at St. Jude Hospital in Fullerton, CA. She lives in Newport Beach.

**Thomas Zuber, M.D. '83,** has left private practice in Benson to become assistant professor of medicine and associate residency director and procedural skills coordinator in the Department of Family Medicine at the East Carolina University School of Medicine.

**Gail Lynn Shaw, M.D. '83,** is a senior investigator in the Biomarkers and Prevention Research Branch at the National Cancer Institute in Maryland. She and her husband, Richard H. Wright, celebrated their first wedding anniversary in February.

**Deborah L. Taylor, M.D. '83,** has been working for the last five years in an outpatient clinic run by Ohio State University. A clinical assistant professor of preventive medicine at the OSU School of Medicine, she lives in Columbus.

**Steven J. Citron, M.D. '84,** recently finished a residency and a fellowship at Emory University Affiliated Hospitals. He is a diagnostic and interventional radiologist at Northside Hospital in Atlanta. He, his wife, Linda, and two children live in Dunwoody.

**James Andrew (Andy) Bell, M.D. '84,** is medical director of the Western Lee County Health Clinic. He and his wife, Beth, live between Big Stone Gap and Pennington Gap in Lee County with their two daughters. They'd love to hear from classmates.

# Class Notes

**Al Osbahr, M.D. '85,** is medical director of the Occupational Health Program at Haywood County Hospital in Waynesville. He has served several years on the American Medical Association Council on Medical Services. He says he is enjoying the mountains with his wife, Beth.

**Elizabeth Cobey Allen, M.D. '85,** has joined the faculty at Bowman Gray School of Medicine as an assistant professor of behavioral and developmental pediatrics. She and her husband have two sons, and live in Winston-Salem.

**Albert D. Hudson, M.D. '86,** has been selected as the Attending Physician of the Year by residents and interns of the Carolinas Medical Center in Charlotte. He is an internist there.

**Curtis Sutton, M.D. '86,** is in his fourth year as a radiology resident at the University of Virginia, where he is completing a year as academic chief resident. He plans to begin a two-year neuroradiology fellowship there in July.

**Rob Conley, M.D. '86,** is spending a year working on medical ethics issues for the American Medical Association. He recently published an editorial on the duty to treat patients with AIDS, which was published in the November issue of the *Journal of the American Medical Association*. Later this year, he plans to work for a Washington, DC law firm.

**Gordon Early, M.D. '87,** is a family practice resident in Englewood, CO. He reports that he and Linda Willis were married in February.

**David P. Lensch, M.D. '87,** has joined Albemarle Anesthesia Associates in Elizabeth City.

**Tom Paulson, M.D. '87,** is a fellow in pediatric critical care at the Children's Hospital and Health Center in San Diego, CA. He and his wife, Heidi, who is a pediatric nurse, say they can't wait to see classmates at the reunion in April.

**Leah K. Weyerts, M.D. '87,** is performing a fellowship in clinical genetics and dysmorphology at Children's Hospital in San Diego, CA.

**Phil Thwing, M.D. '88,** has been assigned for the next three years to Sembach Air Force Base in Germany. He just finished his family practice residency and plans to return to the North Carolina mountains once his Air Force stint is up.

**Craig Charles, M.D. '88,** completed an internal medicine residency at the University of Alabama in Birmingham last June. He is now in solo private practice in Brundidge, AL. He married Martha Ann Mobley last June.

**Jeff Hoffman, M.D. '89,** is a senior family practice resident in Charlotte. He will be joining a family practice group in Concord. He and his wife have one daughter and are expecting another child in July.

**Tammy H. Jenkins, M.D. '89,** is a second-year resident in obstetrics and gynecology at UNC-Chapel Hill, and says she "loves it!" She completed an internship in family medicine at Duke University Medical Center last year. She reports that her sons, Ben and Josh, are doing well.

## 90s

**David Price, M.D. '90,** is an anesthesia resident at the Hershey Medical Center in Pennsylvania. He, his wife and children live in Hummelstown and would like to hear from classmates and friends.

**James M. Coggin, M.D. '91,** is a obstetrics and gynecology resident at the New Hanover Regional Medical Center in Wilmington. He is in the process of submitting for publication his honors thesis "Abdominal Surgical Incisions: Materials, Methods and Techniques."

**Deaths**
**James L. Fry Jr., M.D. '81**
**Charles Wilson Robinson, M.D. '28**
**Thomas Robert Wynne, M.D. '59**

# President's Letter

This letter is my personal swan song as Alumni President. I want to thank everyone who has helped make it a very enjoyable year. Staff, faculty and many fellow alumni have contributed significantly to continuing medical education and to alumni activities in general, and I am grateful to them for all their efforts.

For a moment, let's look to the future. The technology of biomedicine has never been stronger and its influence will be felt in the day-to-day practice of medicine with increasing frequency. Chapel Hill is the place to learn about new advances which can give our patients happier, longer and more productive lives.

At the same time that we need our school to stay abreast of the new biology and its application to medicine, the school needs us for practical advice and for general moral support. Both of these goals can be achieved by coming to Chapel Hill and attending the array of programs available to all alumni.

Thanks for a great year, best wishes for the future, and Dee and I look forward to seeing you in Chapel Hill.

Sincerely,

E. Carwile LeRoy

*E. Carwile LeRoy, M.D. '60*

# CME/Alumni Calendar

| Continuing Education | | |
|---|---|---|
| April 6-10 | NC Transport Institute | Chapel Hill |
| April 10 | Chamberlin Symposium | Chapel Hill |
| May 1 | May Day Trauma | Chapel Hill |
| May 4-5 | Southern Regional Connective Tissue Society | Chapel Hill |
| May 21-22 | TEACCH Autism Conference | Chapel Hill |
| May 30 | Medicolegal Seminar | Chapel Hill |
| June 2-7 | Disordered Learning and Academic Productivity | Chapel Hill |
| June 5-6 | New Concepts in Heart Failure Management | Wrightsville Beach |
| June 13-14 | NC Glomerular Disease Network | Chapel Hill |
| June 19-21 | Daily Anesthetic Challenges | Hilton Head, SC |
| For more information, contact the CME Office, 231 MacNider Building, UNC, Chapel Hill, NC 27599-7000 or call 1-800-862-6264. | | |

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1992

# Dean's Page

Among the great issues and challenges facing American medicine today is the large and growing imbalance in the number of specialists in relation to the number of generalist physicians. No other national health care system operates with less than 50 percent generalists while we now have less than 40 percent, and if present trends continue, generalists will constitute as few as 20 percent of practicing physicians. Most agree, I think, that this imbalance or even virtual disappearance of the generalist or primary care physician from many parts of the health care system, if allowed to occur, has profound implications. For example, absent generalist physicians it seems likely that many functions now served by physicians would come to be served by other health care professions. It may be that the distribution of functions among health care providers should be changed to improve the operation of the system, but it is unfortunate that such redistribution of function (among health care providers) is occurring now and will occur even more in the future, in part at least, because we are not educating and training enough generalist physicians to fill the real need. There are, of course, many other reasons for pressing to assure numerical balance between specialist and generalist physicians. This issue ranks with cost containment, access to health care and quality of care, with all of which it is associated, as a primary concern of medical education in the 1990s.

While the medical school alone cannot solve the problem, it can make a real contribution. Our School of Medicine, under the leadership of Associate Deans Bill Mattern and Gene Mayer and with the solid support of all departments and the AHECs, is making a real and extensive effort to do its part.

In a later column, I will document some of the things we are doing. For now, I want to share some general reflections on the nature of the problem in the belief that we must address the fundamental causes if we are to succeed in correcting the problem.

First, while current and acute, this is not a new problem. The trend toward specialization has ancient roots. Herodotus described Egyptian medicine in 400 B.C.: "Each physician applies himself to one disease and no more. All places abound in physicians, some are for the eyes, others for the head, others for the teeth, others for the intestines, and others for intemal disorders." One can find similar descriptions in most every era since. In the United States, there has been increasing effort by state and federal governments, and many others, to address these problems for several decades.

Nor is the problem isolated to medicine. Indeed, specialization characterizes most complex human enterprise in our society: banking, law, business, sports, even the ministry.

In many ways, western culture is built on specialization. The undergraduate education in liberal arts is in a sense the last bastion of the generalist in our society. Certainly our universities, like our medical schools, have not been as effective in developing general education programs as they have in developing programs of education in specialties.

In contemporary U.S. medicine, there are powerful disincentives for the generalist as well as incentives for the specialist. These are not only financial, but they are also social, intellectual and professional, and they cannot be hidden from uncommitted students.

On the other hand, these negative factors are not all pervasive. While we all know generalists who retire early or move into a specialty, we also know scores of generalists who are having lives of great professional and personal fulfillment.

I believe that the people of the state and nation will be best served by a mix of generalist and specialist physicians that is approximately 50/50. Our school has an opportunity and a responsibility to strengthen in every possible way the education and training of generalist physicians and to support the development of supportive environments and arrangements for practice for generalist physicians.

We have many promising initiatives under way, and there is some evidence of progress. This issue is so important to the future of health care in North Carolina that I will describe our efforts in more detail in a future issue of the *Bulletin*.

Stuart Bondurant

*Stuart Bondurant, Dean*

*Medical Alumni*
# BULLETIN
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## Contents

### Features

UNC Leads in Caring for Elderly People ..... 2

Computer Database Simplifies Maze of Medical School Curricula ..... 8

UNC-Chapel Hill School of Medicine: The Early Years ..... 12

Owl-Smith Makes a Difference...For Her Family, For Her People ..... 14

Using Ultrasound to Diagnose Vascular Disease ..... 16

### Departments

Dean's Page ..... Inside Front Cover

Development Notes ..... 22

News Briefs ..... 23

Faculty Notes ..... 29

Class Notes ..... 30

President's Letter ..... Inside Back Cover

Alumni/CME Calendar ..... Back Cover

### On the Cover

Nell Cole Graves, 83, is a fifth-generation potter and owner of J.B. Cole Pottery in Seagrove. She represents the vitality and hope for North Carolina's elderly citizens, the fastest growing segment of the state's population. Thus, while geriatric care is fast becoming one of the state's biggest challenges, UNC is recognized as a leader in the development of aging and geriatric care. *(Photo by Don McKenzie)*

# The Age of Aging

**By Val Lauder**

Wine is famed for aging. Fine furniture and *objects d'art* acquire great value with time. Human aging, though, is a whole other matter. And North Carolina, now recognized as an ideal retirement state, is front and center in the matter.

"North Carolina is now at the top of the aging curve," said Mark E. Williams, M.D., associate professor in the Department of Medicine and director of the Program on Aging. "More than 12 percent of our population is over the age of 65."

In fact, Williams said, "North Carolina is one of the fastest growing states in terms of increases in the geriatric population. For the period 1975-1980, North Carolina had the fourth highest net migration of people aged 60 and over, ranking behind only Florida, Arizona and Texas. That has to do with people realizing what a wonderful state this is.

"Between 1980 and 1986, North Carolina was one of 11 states experiencing an increase of more than 20 percent in its population aged 65 and over. And North Carolina's population 65 and older is projected to increase in this decade at nearly twice the national rate.

"We're getting retirees from all over the country and all over the world," Williams said. "People who once thought the deep Sun Belt was the place to retire are realizing that, for geographical variety, for seasonal variability, for cultural diversity, North Carolina really has it all. And these are some of the best educated—and most affluent—people who can choose to live anywhere in the world they want. In increasing numbers they're choosing North Carolina as that place."

In addition to the influx of retirees, "North Carolina has a very loyal and indigenous population, and that population is aging gracefully in place," Williams said. "Appropriately, it doesn't feel the need to move any place else to retire."

The result is challenges to the state—which Williams welcomes—"to provide useful opportunities to all these people.

"Many people frame the issues of aging in terms of problems or dilemmas. I think that people who view growing old as a problem should consider the alternatives."

Beyond the obvious concerns of health and well-being, "We're one of the cultures that do not honor elderly people," Williams said. "Ours is a youth-oriented culture, although that notion has been largely romanticized. Looking through the lessons of history and making cross-cultural comparisons in the United States, as well as other places, there has always been, and probably always will be, an ambivalence about old age.

"It's a great irony and paradox in our society that some of the most powerful people in the world—our military leaders, heads of state, presidents of the United States (past and present), Supreme Court justices, religious figures—are all people of such advanced ages that they might be forced to retire from many U.S. corporations."

And the numbers of the aging are not simply growing, they're soaring.

*The Charlotte Observer* reported (June 25, 1991) that men and women age 85 and older are one of the Carolinas' fastest growing age groups.

"The trend has officials in the Carolinas sounding an alarm," *The Observer* said. "They predict a crushing demand over the next two decades on services for the elderly—and on their relatives—as the number of people 85 and older doubles to about 200,000. Overall population grew 12 percent in South Carolina and 13 percent in North Carolina during the past decade, according to the 1990 census. But the 85-and-over age group jumped by 55 percent in North Carolina and 54 percent in South Carolina. The only age group growing faster is in its early 80s now."

A 101-year-old woman was quoted in the article as saying: "We're becoming a dime a dozen."

The reasons, Williams said, are not limited to the miracles of modern medicine and technology. A key factor has been this century's "public health measures—increasing availability of clean water, cleaning up the sewage, vaccinating children from childhood-killing diseases, and possibly the effects of antibiotics for acute infections. We have not pushed forward the maximal limits of the human life span. What we've done has allowed a larger number of people to live to that average life span, and that's basically been by keeping young people from dying from previous killer diseases. Old age, once the privilege of the very few, has become the destiny of man."

Going way back in history, older people were valued for the information they remembered, Williams said. "Knowledge of the past, cultural values, were passed down from generation to generation."

Today's families are often caught up in the technology gap dramatized in a TV commercial: a grandfather, who has trouble programming his VCR, asks his granddaughter to help. She zips through it, spouting a jargon of directions that leaves him even more baffled than before.

Television commercials and national advertising are also strong purveyors of

Photo by Don McKenzie

*Physicians need to look at the whole person in geriatric care—the patient's likes, dislikes and lifestyle. Nell Cole Graves has been "turning pots" since she was 3. Not only is potting her livelihood, it is her life.*

stereotypes. "If you watch the evening news," Williams said, "the message comes through, loud and clear, that to be happy and healthy as an old person, you need to be young, good looking...and regular.

"An even more damaging stereotype is that to be seen in the TV commercials where the older woman bounces in from the country club—and her husband, who has continued youthful vigor, pops out of the golf cart—and she says, 'Honey, I have these new absorbent pants, and now we can go off and waltz into the sunset.' The TV stereotype is that your average senior citizen is relatively affluent and has continued youthful vigor.

"The problem with *that*," Williams said, "is that the old person who does not meet that ideal may feel the problem is within him or her, rather than as a societal problem. And that's a great tragedy."

Much needs to be done to correct the myths and misconceptions about aging.

"The problem in a nutshell," Williams said, "is that people either deny aging or they fixate on the physical changes that result from aging. It is absolutely the case that you can't run a 100-yard dash at age 75 like you can when you're 15. But what you gain in wisdom, experience, and a deep emotional perspective, means it may not be important to you to run 100-yard dashes, and that you can better adapt to the environmental changes and demands because of your resiliency and flexibility.

"The key element is maintaining your health and having the right attitude and perspective about what's happening. Too often, people fall victim in old age to a terrible curse—boredom."

Some of this may grow out of another romantic notion: that retirement is going to be a time to enjoy pleasures denied by work.

But too often, Williams said, it's the beginning of an empty future. "People say, 'Oh, I'll get around to writing that textbook when I retire.' But they don't do it. And the reason they don't do it is because there's not anything that's giving their life meaning, purpose, a sense of direction, a sense of fulfillment."

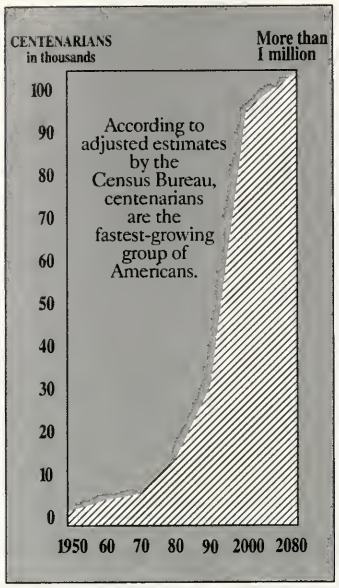
Many factors go into that.

"Part of it is pure and simple wishful thinking," Williams said. "Additionally, old age is not something you wait until you get to it to plan for. It's like financial planning—you make long-term investments.

"There's a maxim in geriatric medicine that says, 'Use it or lose it.' That's a very general and good rule of thumb. People who use their mind and their creativity will do well."

Williams addressed another aspect of the problem.

"Part of our societal malaise is that we've successfully insulated death from our society. Back at the turn of the century, with a more rural economy and setting, people knew where their nourishment came from; if there was a chicken or turkey on the table, they knew what had happened. People were born in the home, married in the home, lived in the home and died in the home. The whole cycle of life was there to be witnessed, with its joys and sorrows, its pleasures and disappointments. Today, we don't sense that responsibility. I do think an appreciation of the naturalness of the rhythms and cycles of life is important."




Traveling back through history and religion, Williams said, there was a time when life was circular. "At any given age, you were equally distanced from God. With Shakespeare and the 15th and 16th centuries, that metaphor broke down into more of a stair-step approach. You see these woodcuts where there's a baby on one step and a toddler on another, and you go up, and there's the marriage and the young couple, and then back down the other side. It was as if middle age was the pinnacle of life and everything else was a slide downhill.

"We get so preoccupied with the physical change that is visible, and that is important if you have to function at absolute maximum capacity at all times. If you're an Olympic-caliber athlete, you have to consider retirement when you're still in your 20s. You're geriatric from the sense of Olympic competition. But for 99.99 percent of human beings on the face of the earth, that degree of Olympic quality physical performance isn't a necessity."

There is no gainsaying the fact, however, that age does bring its physical and, sadly, too often, mental limitations. Also, too often in the past, physical symptoms or ailments among the older population were seen—and even diagnosed—as senility, part of the aging process, something to be expected, something the individual or individual's family had to learn to live with.

Today, geriatric medicine is bringing shared research, shared experience to bear, and harnessing high-tech to its purposes. At UNC, the Department of Medicine offers a Geriatric Evaluation Clinic—"a world-class geriatric clinical program in which people from all over the world, Cairo, Tokyo, London and San Salvador, for example, have come for geriatric evaluation," Williams said.

These patients are seen by an interdisciplinary team which may include geriatric nurse clinicians, geriatric social workers, psychiatrists, geriatric dentists, physical and occupational therapists and pharmacists. "We approach their treatment with the basic goal of providing a comprehensive assessment—getting to know the person and figuring out what their needs for care might be. We've found that people who come from far and wide are asking for a second opinion, relating to mental or musculoskeletal functioning."

Another service the clinic offers is to provide consultation for primary care physicians who have specific questions or who face particular challenges in caring for their older patients.

To help physicians learn more about treating elderly people, the School of Medicine offers geriatric fellowships and the Program on Aging provides continuing medical education programs.

"Our programs are targeted for physicians in practice," Williams said. "The majority of geriatric care is being delivered by existing practitioners. Yet most physicians over the age of 35 have not received any formal geriatric training. Many of them under 35 have not received any formal geriatric training, either. One way to improve the overall quality of geriatric care in the state is to raise the floor of care just a little bit across a wide variety of practitioners."

To achieve this, Williams and a colleague, Nancy Connolly, Ph.D., conducted a research project two years ago that was funded by the John Hartford Foundation in New York. The project addressed several dimensions of the aging issue.

"First, we learned a lot by questioning a random sample of physicians throughout North Carolina. Physicians were asked, 'What do you think is the most challenging geriatric issue you face in your practice?' None of the answers were surprising,"

Photo by Jay Mangum

*Mark E. Williams, M.D., says that "there's a sense of connection in the fact that UNC, as the oldest state-supported institution of higher learning, would be a national leader in the development of aging and geriatric care."*

Williams said. Responses dealt with Alzheimer's disease, depression, issues of polypharmacy, incontinence, family and social issues.

"Second, we used a CME format that combined a series of 10 videos with a series of workbooks that dealt with a single subject.

"Participants hear an expert update from a national figure," Williams said. "The focus of the talk isn't the expert's after-dinner talk on, say, dementia but, 'How do you diagnose and manage people with dementing illness in your practice?' 'What do you need to know?' It's a very nitty-gritty, hands-on kind of thing.

"Then, people watch a video, and that video crystallizes a central issue in the care. It's a scripted video, re-enacted and built around real-life situations. In dementia, for instance, the challenge is between safety and independence.

"In one scene, an older woman who lives alone has had a few fires in the kitchen. Two family members are involved. One says, 'Mom has always told us she wanted to live in the home, and it's OK if she dies in the home, even if it's a premature death.' The other family member says, 'I don't know if I can handle that, because I want Mom to live as long as possible, even if it means reducing her freedom for her own good.'

"Real life. What do you do now?"

The CME program is designed for 30 to 40 doctors in a group. The sessions run for two and a half days, and cover five different topics. "We've found that the people

who have gone through this have really liked it."

A third element of Williams' research project has been an evaluation strategy. "We say to people, 'As a result of this, list one or two things that have changed about your evaluation of elderly people in practice,'" Williams said. "The participants make an informal contract with us to improve. They self-select ways to improve their own care."

This approach to upgrading geriatric care was presented by Williams and Connolly at last year's national annual meeting of the American Geriatric Society in Chicago. He said medical schools from all over the country have been requesting copies of the videotaped presentations. These institutions are using the module in the education of practicing physicians, medical students, resident physicians, geriatric fellows, nurses, social workers and nursing home staff.

"Aging touches all health care providers, everybody in the field of medicine and caregiving," Williams said.

The UNC Program on Aging became operational in 1979, with Williams taking over as its director in 1987. He has been instrumental in increasing the visibility of the program and incorporating more aging information into the educational curriculum. He said he foresees opportunities for collaboration in the future with a multidisciplinary Aging Center or Aging Institute that would pull together all the scholars on the UNC-Chapel Hill campus with an interest in or knowledge of aging.

Peter J. Rizzolo, M.D., associate professor in the Department of Family Medicine, helps train doctors who have finished medical school and are taking three years of residency to become family physicians. "They're going to be taking care of a lot of old folks," Rizzolo said. "As many as a third of their patient visits will be people over 65, and most of the people they put in hospitals will be people over 65."

Notwithstanding this, "for the most part, people over 65 are healthy. We have a lot of folks over 65 who are very independent and very healthy. In fact, we try to have an array of services that will attract the healthy.

"This must be balanced with services for people who are frail, who in the daily activities of living need some help. Some of them have mobility problems, arthritis, and they're just unable to care for themselves, unable to shop, pay their bills, get to appointments. These are people who have special needs."

To help them, the Geriatric Community Care Services program was established within Family Medicine.

"We have a team to see the patients as a group. We have a social worker, a nurse, a pharmacy specialist, an attending physician and a geriatric fellow. Because the patients we see have so many problems, not just one thing to treat but several problems, it takes a team with different kinds of expertise. We complement each other.

"The social worker is extremely important," said Rizzolo, "because a lot of the things these patients need have nothing to do with what a doctor can offer. They need services. They need to know about what's available out there."

Between 80 and 100 patients are currently being treated by Geriatric Community Care Services.

Because of rising demand, Rizzolo said the program is adding staff and will soon have a podiatrist and offer physical therapy services as well.

A recent grant from the Kate B. Reynolds Foundation provided funding for a project to train 15 volunteers for home visits to geriatric patients. Volunteers may be of all ages. If the project proves to be effective, Rizzolo said they hope to expand it to other parts of the state.

A special geriatric pharmacy program is conducted in conjunction with the School of Pharmacy. As Rizzolo explained, "The longer you live, the more medicine you're liable to be taking." This program is proving to be especially beneficial to retirement communities and nursing homes.

Other Family Medicine faculty who have special clinical and research interests related to the aging population include Philip D. Sloane, M.D., associate professor, and Franklin Hargett, M.D., a fellow in Family Medicine. Rizzolo said, "Dr. Sloane, Dr. Hargett and I see geriatrics as a very significant part of our academic and research enterprise. We have a number of research projects under way and a fellowship program to train geriatricians—a two-year program after the three-year residency. We'll eventually have a total of four fellows in the program to take their boards in geriatrics.

"It's not a full-fledged specialty yet," said Rizzolo. "Most of us see geriatrics not as something we're just going to have specialists in but as an academic specialty where we train geriatricians to teach doctors to take better care of older folks."

As one example, Rizzolo said, "We have to train our doctors to realize that these people they are seeing take more time, because they have more problems. And that as you become more dependent, it's very difficult sometimes to even ask for help. If you're used to being independent, it hurts to ask for help.

Photo by Dan Crawford

*Peter J. Rizzolo, M.D., associate professor of family medicine, begins a check-up on Carrie Kornegay, a patient being seen as a part of the Geriatric Community Care Services program in the Department of Family Medicine. Assisting with the examination is resident Susan Kim-Foley, M.D.*

- In the Bronze Age, the average life expectancy was around 18.
- In the days of the Roman Empire, the average life expectancy was around 30.
- When the University of North Carolina first opened its doors, almost 200 years ago, the average life expectancy was around 40.
- In the year 1900, the average life expectancy was 47.
- A baby girl born in UNC Hospitals today has a better than 50-50 chance of life expectancy beyond 80.
- The fastest growing segment of the U.S. population is people over 100.
- The population over the age of 65 doubled from 1960 to 1990. And in the next 40 years will double again.
- In the year 2020, one in five Americans will be over the age of 65.

— Mark E. Williams, M.D.

"We encourage as part of the training to find out more about the patients. What is their source of income? Very often doctors don't ask this. If you're prescribing expensive medicine and they're living on Social Security, you'd better know that; because they may not even be taking the medicine. Or, instead of taking it three times a day, they're taking it once a day, so it lasts longer. And you wonder why they're not responding.

"You need to look at the whole person in geriatrics. It's important at all ages, but it's extremely important with elderly people. Because the social, economic and medical issues all come into play together."

As the residents of North Carolina, like their counterparts throughout the United States, begin to face the fact that they are entering the "age of aging"—with all of the demands this places on national, state, local and individual resources—they may wish to linger over something Mark Williams said:

"Language directs our thinking. Never use elderly as a noun. The elderly. It distances people from one another.

"We're not talking about a disenfranchised minority, we're talking about ourselves in the future."

***Editor's Note:*** *Williams has been invited to Hagen, Germany, this fall to work with physicians who are interested in establishing a system of geriatric care as a part of the country's effort to redevelop its health care system. Theo Scholten, M.D., chair of the Department of Medicine at the University of Hagen, is the principal host.*

# Aging and Rural Health: The Role of AHEC

Each month for the past two years, geriatric specialists from the University of North Carolina at Chapel Hill have flown to a remote part of Northampton County to share their expertise to benefit elderly residents in that area.

Sponsored by the Program on Aging in the UNC School of Medicine, Area L AHEC and the Roanoke Amaranth Community Health Group in Jackson, the day-long Geriatric Evaluation Clinic has been especially welcomed by the health care providers in Northampton County, an impoverished rural area with a large, elderly and minority population, said Eugene S. Mayer, M.D., associate dean and Area Health Education Centers program director at UNC-Chapel Hill.

He said the GEC projects' purpose is twofold: to add to the quality of health care provided to older adults by enhancing the skills and knowledge of area health care practitioners; and to expose health care students to effective multidisciplinary care and to the problems experienced by poor, elderly persons in the state's rural regions.

To accomplish these joint goals, an experienced geriatric team from UNC joins a local interdisciplinary team in Jackson once a month to evaluate older adults who are facing rapidly changing medical and/or social circumstances in their lives. Possible solutions to patients' complex health problems are recommended to the referring physician. Patients continue to see their primary care physicians for health care, including the implementation of the recommendations of the interdisciplinary geriatric team.

The UNC team, led by Mark E. Williams, M.D., associate professor of medicine and director of the UNC Program on Aging, is comprised of a geriatric nurse clinician and a geriatric social worker, and also may include other specialists such as gero-psychiatrists, nutritionists and dentists.

The Jackson team is guided by Jane McCaleb, M.D., and includes other physicians from the Roanoke Amaranth Clinic or the adjacent Hampton Woods Nursing Home, nurses, social workers from the Department of Social Services or Hampton Woods, a pharmacist, home health nurses and other health professionals.

One of the core members of the UNC team is Anne Flash, M.S.N., R.N., a clinical instructor and one of the coordinators of the Geriatric Evaluation Clinic at UNC Hospitals. "One of our jobs," Flash says, "is to bring out the wholeness of the patient, particularly if the patient has experienced an illness that compromises independence and mobility, such as a stroke. Our team's ability to go out to them in their environment facilitates this process."

Medical Air Operations, or MedAir, makes clinics such as the rural GEC possible by providing fast, reliable transportation to and from sites. Administered by the North Carolina AHEC Program, the university's flight department transports UNC physicians, nurses, allied health care professionals and other educators to communities throughout the state.

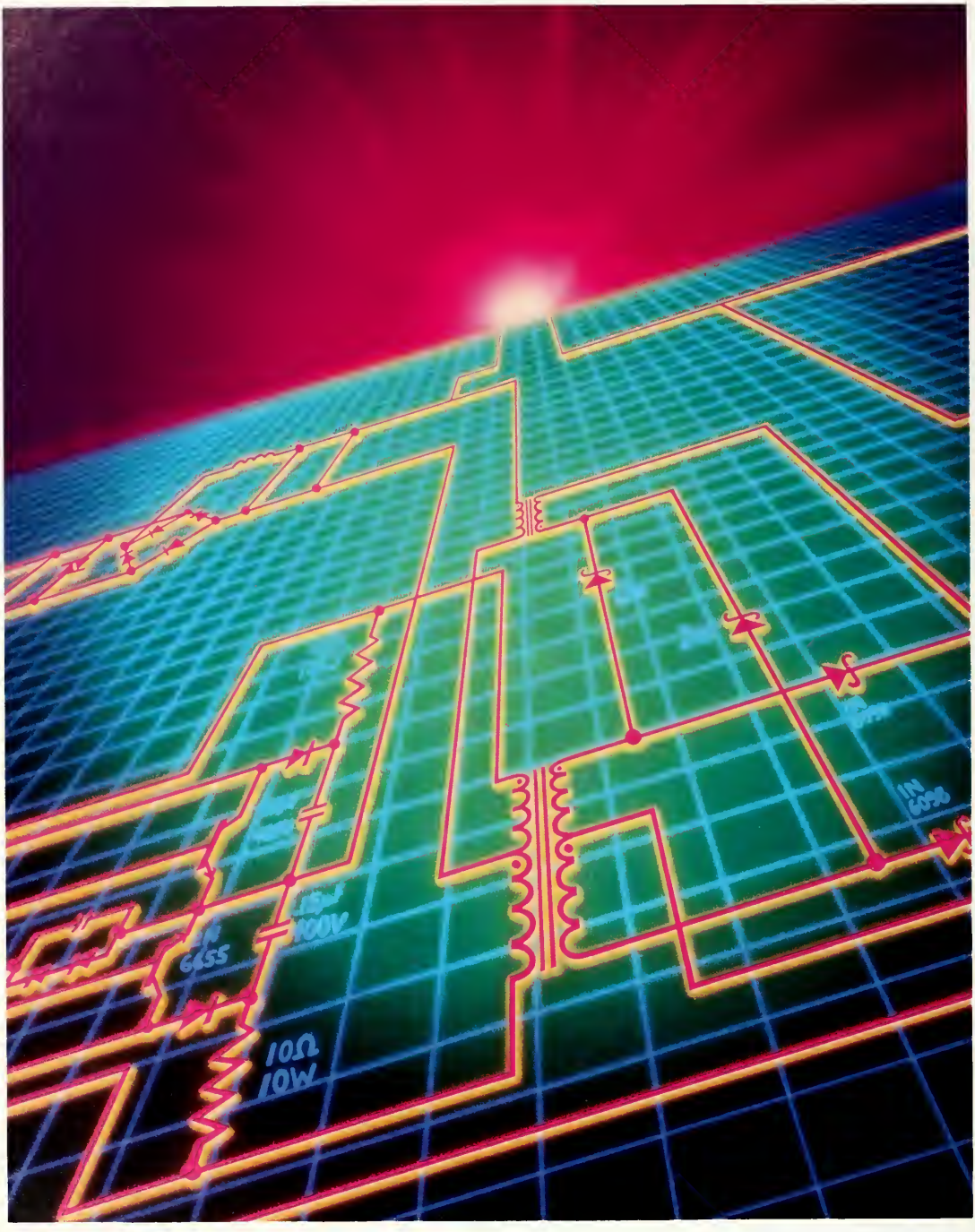
Based at the Horace Williams Airport in Chapel Hill, MedAir and its crew of pilots ensure that the GEC team gets to Jackson and back all in the same day. The service is convenient to both the UNC and the Jackson teams as it cuts down on time spent traveling and maximizes time spent on patient care assessment and consultation, Mayer said.

The regional AHEC coordinates educational efforts for physicians, physician assistants and office staff in all aspects of medical care. Dennis Sherrod, Ed.D., R.N., is associate director of Nursing (Aging) Education at the Area L AHEC in Rocky Mount. Sherrod, who coordinates each monthly GEC session, said that rural visits allow students and health care providers to gain a different perspective from treating patients in a hospital setting.

"Care in a rural area is different from care provided in a university setting. Health care providers and students can learn a lot by observing the incidental choices patients make, by their dress, by the way they speak and act," Sherrod said.

Students participating in the clinics appreciate the fact that the cases under review are real and not hypothetical, Sherrod said. "Their input is sought and taken into consideration during care assessment, a first for many of them who are used to listening, observing and taking notes."

"The Geriatric Evaluation Clinic in Area L AHEC illustrates our medical school's commitment to its patient care, educational and statewide service missions," Mayer said. "For patients and health careers students alike, it's a win-win situation."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# Computer Changes Way Medical School Curriculum Is Viewed

**By Barbara J. Proujan**

Medical schools have witnessed numerous changes in the last decade with the evolution of new teaching formats, technologies, treatments and interdisciplinary subjects, such as caring for elderly persons.

To ensure that, as these changes occur, doctors of tomorrow obtain the knowledge that they need, medical schools have responded by updating their curricula. Areas of overlap have been deleted and areas that had been omitted have been included.

Keeping track of these changes normally is a time-consuming manual task because of the volume of information contained within medical courses. Curriculum managers must review stacks of paper containing thousands of pieces of information presented in the first two years of medical school to determine where a specific subject is taught. The information comes from lectures, small-group discussions, case conferences and problem-solving experiences and includes facts, concepts, topics, ideas, issues, slides, photographs, radiographic images and videotapes.

At the UNC-Chapel Hill School of Medicine, the staff of the Office of Academic Affairs determined six years ago that a new, quicker and easier curriculum management method was needed. In response, they developed a prototype computer database.

"We decided that we needed a way to capture the content of the curriculum, particularly of the first two years, in such a way that we would be able to understand what was there and then make changes based on actual content," said William D. Mattern, M.D., associate dean of academic affairs. "The database provides a fast, accurate inventory of what is being taught, when it is taught and who teaches it.

"We were among the first groups to develop a database, and ours is probably the best developed medical school curriculum database in the United States. We have received requests for information from all over the country."

> "In a time of turbulence and change, it is more true than ever that knowledge is power."
>
> John F. Kennedy
> Address at the University of California at Berkeley
> March 23, 1962

"The system will allow us to determine whether the curriculum contains all of the ingredients to which the school thinks students should be exposed," said Kirk Aune, Ph.D., associate dean of information systems. "Without the information in one place, you cannot make a judgment, a complete and accurate judgment, of content."

Using UNC's database, administrators can rapidly respond to internal and external curriculum content questions. These queries can range from a faculty member wanting to determine how many hours of teaching occurs in a specific department, to calls from other medical schools or organizations that are interested in a particular content area.

"Before we had the database, answers to these types of requests were hard to document; now we are in a position where we can easily provide information," Mattern said.

The system was designed on an IBM-compatible personal computer, which provides easy accessibility and sizable data storage.

Additionally, the computer supports sophisticated graphics, provides powerful programming features and has great versatility in displaying data.

One of the features that makes the system so useful is its flexibility in retrieving data, which is provided by two internal components: a relational database management system and a textfile management system.

Within each of these components, data are organized around 'instructional units,' which are defined as small-group sessions or lectures. Data included in the relational database management system are: course names, directors' names, number of hours a subject is taught, teaching formats used, faculty involved, subjects discussed and keywords that capture the main concepts presented in a course. Additionally, the program includes descriptions of third- and fourth-year clerkships.

In the textfile management system, larger pieces of data can be stored, such as overviews of the curriculum, course descriptions and outlines and all curriculum-related policies and procedures. Thus, the system provides an overview of the entire curriculum.

Although the University of Maryland School of Medicine and the University of Miami School of Medicine also are developing curriculum databases, the textfile management system makes UNC's program unique.

"The textfile management system is one of the most useful features of the database," Mattern said.

"It creates flexible linkages among pieces of data, thereby facilitating data retrieval. Additionally, this program enables users to go from one type of data file to the other, in a single keystroke."

To help users standardize their searches, several first- and second-year medical students noted keywords used in lectures and other sessions. These keywords were added to a standard dictionary of terms used by the National Library of Medicine, called Medical Subject Headings (MeSH). There are 16,000 standard MeSH terms and 82,000 MeSH synonyms in UNC's curriculum database dictionary.

As keywords from the medical school courses are added to the database, the computer checks the MeSH dictionary and links the term with the appropriate MeSH heading. If no match is found, the term is alphabetically added as a separate word.

> **"We were among the first groups to develop a database, and ours is probably the best developed medical school curriculum database in the United States."**
>
> William D. Mattern, M.D.

The system permits users to either browse or search to obtain information.

To search for information, users can enter up to three terms linked with 'and' or 'or.' The computer program then scrolls through the dictionary to words beginning with those letters. Users can either select that term or a similar one, or view the corresponding course outline in the textfile. The computer also indicates whether the term in question is indexed to an instructional unit or not. This saves time so that users are not searching for terms that do not match or that are not keywords for an instructional unit.

Clearly, the system is an improvement over the manual method of curriculum review. According to Aune, "The system is responsive in a matter of seconds to questions, such as 'Where is a student exposed to information on renal failure?' "

But, according to its developers, the system has not realized its maximum potential.

Recently, Mattern sponsored a medical student, Will Jones, to develop a companion program for the histology course that is oriented toward student learning and will be integrated into the curriculum database.

This program contains the course syllabus, student notes, digitized images of slides of tissue samples and model test questions linked to these three areas.

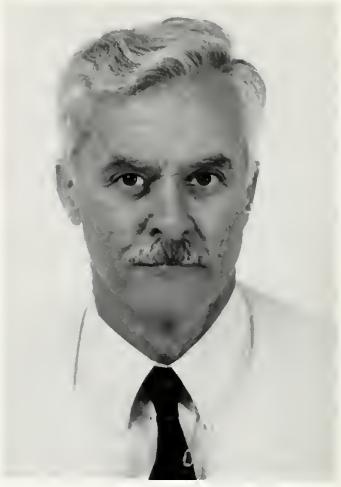
Using the database, students can go from the syllabus, to the notes, to the slides, to the test questions for each of the 24 histology textbook chapters. According to Mattern, other companion programs will be developed for other courses.

Additionally, as computer programs become more sophisticated, Mattern envisions students studying computer-generated 3-D images for their anatomy, neuroanatomy and radiology courses or examining animated graphics showing mechanisms of disease processes and cellular events.

"We had not been able to consider these other options when we initially developed the database because the computer software did not exist," Mattern said. "You need software that is powerful enough to index and retrieve information, digitize images from slides and reproduce them at high resolution, and animation realistic enough to represent processes that take place at the cellular level. That software is now available or is being developed.

"The power of the computer as a tool for learning is just beginning to be realized," he added. "Medical students of tomorrow may be obtaining most of what they learn by using computers. It is possible that computers will replace printed material, as well as supplement the traditional cadaver dissection."

The future also holds the possibility of capturing course content in greater detail, including entire syllabi and the contents of student notes with tables and graphs; incorporating alternative learning formats; linking content with exam questions; capturing information generated by student-patient interaction and networking UNC's curriculum database with other databases, both on campus and elsewhere.



*William D. Mattern, M.D.*

One of the distant databases they would hook up to is a national database containing the curriculum taught at all 126 medical schools. Mattern is collaborating with the Association of American Medical Colleges to create such a database, which would enable administrators and faculty at different institutions to compare curricula. For example, if a UNC-Chapel Hill biochemistry professor wanted to know what topics were taught elsewhere, this database would provide the necessary information.

As the field of medicine continues to change in the future, UNC's database will be updated. Such a project would require re-gathering all the information about the school's curriculum and re-entering it. According to Mattern, such a project might be undertaken every two years. The old program would be stored for comparison of how the curriculum changes over time. "This would provide a tracking device that would enhance evaluation of program quality," Mattern said.

"It is a good trend that academic administrators are leading the effort of using information technology tools to evaluate and explore curriculums that are constantly evolving," Aune said. "At UNC, they will not just change the medical school curriculum on a whim, they will be able to change it with a first-hand understanding of the content."

# UNC School of Medicine Celebrates 40th Anniversary Of Four-Year Program

Four decades ago, health care and medical education in North Carolina reached a turning point when the University of North Carolina expanded its medical school from a two-year program to a four-year degree program, coinciding with the opening of North Carolina Memorial Hospital in Chapel Hill.

Statistics gathered for Gov. J. Melville Broughton in the 1940s illustrated that North Carolina "lagged woefully behind other states in providing medical care to its citizens." It was a fact that during World War II more young men from North Carolina had been rejected for military service because of poor health than from almost any other state. The two degree-granting medical schools in the state, both at private universities, were graduating fewer than 40 doctors each year to practice in the state.

For years—since 1922, in fact—officials at the university had petitioned the state legislature for funds to expand the medical school. But it was not until the mid-1940s when the ill health of the state's medical care system came to the forefront that the proposal received support in conjunction with Gov. Broughton's "Good Health Program."

In 1945, the legislature authorized university trustees to expand the medical school, pending an independent study of the best location for it. That study recommended Chapel Hill, and in 1947, 1949 and 1951, the General Assembly appropriated funds for the school's expansion and the construction of the teaching hospital.

In the fall of 1952, North Carolina Memorial Hospital opened its doors to patients and the UNC School of Medicine in Chapel Hill offered its first classes to third-year medical students.

It had taken nearly three-quarters of a century to get to that point.

The UNC medical school first offered classes in 1879—anatomy, taught by Thomas W. Harris, M.D., dean of the medical school; general and analytical chemistry, taught by A. Fletcher Redd; and botany and physiology, taught by Frederick W. Simonds, Ph.D. Second-year classes in anatomy, materia medica and therapeutics and practice of medicine were taught by Dean Harris.

When Dean Harris resigned in 1885, the medical school closed.

Five years later, in 1890, the medical school reopened with Richard H. Whitehead, M.D., as dean. The school has remained open continuously since that time.

Throughout its history, the medical school attempted to expand its program from two to four years. In 1902, during Dr. Whitehead's tenure in Chapel Hill, the university established a two-year clinical medicine department in Raleigh. Hubert A. Royster, M.D., was named dean of the Raleigh school. For eight years, the Raleigh Medical Department —without financial support from the university—successfully trained medical students, and 76 graduated. Lack of funding, coupled with inadequate space and equipment, kept the department from being approved by national medical education reviewers and it was forced to close in 1910.

In Chapel Hill, Dean Whitehead had resigned in 1905 and was succeeded by Isaac Hall Manning Sr., M.D. Between 1921 and 1923, under Dean Manning's guidance, university officials made another attempt at getting approval and funding to expand the medical school to four years, but their efforts failed when the General Assembly denied the university's request for $350,000 to establish the four-year school.

After Dean Manning's resignation in 1933 and a brief tenure by Dean Charles S. Mangum, M.D., William deB. MacNider, M.D., became dean of the medical school in 1937. That year the General Assembly passed a resolution calling for a study of state-supported four-year medical education. Although the study recommended an expansion, there was disagreement over the location for the school, and the 1939 General Assembly voted against the recommendation.

When Dean MacNider resigned in 1941, Walter Reece Berryhill, M.D., became acting dean and later assumed the deanship. During the war years, the medical school recommitted itself to expansion to a four-year school. The efforts over the next decade of Dean Berryhill, the medical school faculty, university officials and others paid off when the expanded school and teaching hospital opened in 1952.

Spirits were high in Chapel Hill when the medical school began its expanded program. "There was tremendous excitement about the school and the hospital," said Kenneth M. Brinkhous, M.D., pathology department chair (1946-1973). "The spirit was very high, because when you're starting a new place like the expanded medical school and a new university hospital, all sorts of people with ideas about how things should be instead of how they are want to be involved. It was a great time to be here."

For four decades, ably guided by deans Berryhill, Isaac M. Taylor, M.D. (1964-1971), Christopher C. Fordham III, M.D. (1971-1979), and Stuart Bondurant, M.D. (1979-present), the medical school, along with the entire medical center, has succeeded in meeting the needs recognized so long ago.

# 'The Old Medical School'

**By J.K. Hall, M.D. '02**
**Richmond, Virginia**

***Editor's Note:*** *As the University of North Carolina at Chapel Hill prepares to celebrate its Bicentennial anniversary, it is fitting to review the early years of the School of Medicine, as recorded by the late James King Hall, M.D. This essay is believed to have been written on the occasion of the dedication of MacNider Hall in 1939, and is reprinted, in part, here. Born in 1875, Hall entered UNC in 1897. He received his bachelor's degree in 1901 and earned a CMED in 1902. He was awarded an honorary law degree by his alma mater in 1935 and died in 1948.*

In whose mind arose first, do you suppose, the thought that the University should teach medicine, as well as other sciences and arts? It has been said that beginnings are seldom recorded. What a long time it was from the opening of the University of North Carolina in 1793 to the opening day of the School of Medicine in 1879! But the event that is to be has been forever on the way.

Dr. Thomas W. Harris, who began the teaching of medicine here in 1879, was an academic graduate of the University in the class, perhaps, of 1859. He ranked high in scholastic standing. He obtained his degree in medicine from the University of New York, and he did graduate work for two or three years in Paris. His medical teaching at the University was of the preceptorial kind, which fitted students for matriculation in the large medical schools. Certain members of the University faculty gave instruction in those branches closely allied to medicine, but the medical school, if such it were called, did not become an integral part of the University during the days of Dr. Harris. He moved to Durham in 1885, giving up his teaching activities, and for five years the University was without facilities for instruction in the medical branches.

Then, in 1890, the School of Medicine was born again, as the University had been reborn in 1875. The medical division was fortunate in its new head, Dr. Richard Henry Whitehead of Salisbury. There he had been born in 1865, about four months after President Jefferson Davis had passed through the town on his hurried journey to the South. Dr. Whitehead's background was valid and fortunate for him and for the state.

It is not difficult for the student of heredity to believe that Richard H. Whitehead got by paternal transmission his love of science and from his mother's line his skill in teaching. His brother, John—elder by almost ten years—spent his professional life entirely in Salisbury. The late Dr. Isaac M. Taylor of Morganton, a man of erudition himself, told me once that Dr. John Whitehead, whom he knew well, was the best physician in North Carolina, if not in the entire country. He was reputed to possess the same sort of innate and uncanny diagnostic acumen that had made his father famous as a practitioner.

Richard H. Whitehead, his younger brother, was said to have been studious and keenly observant even in childhood. His schooling was had in Salisbury under the Reverend Doctor F.J. Murdock, a scholarly Episcopal minister, who had the rare gift of being able both to teach and to inspire his students. After a year at the Homer Military School at Oxford, young Richard Whitehead matriculated at Wake Forest College and was graduated as a Bachelor of Arts in 1886. He entered the Medical School of the University of Virginia in the fall of that year and completed the two years in medicine in one year. Dr. Towles, the famous teacher of anatomy there, was so impressed by the young man's capacity to concentrate and to learn that he induced him to come back to help in teaching for the next two years. In the fall of 1889, the young physician went to New York to fit himself by clinical experience for the surgical work in his brother John's busy practice. "The best laid plans o'mice and men..." What an immortal truth the Scotch lad's plow upturned on a rocky hillside on that cold winter's day!

The University of North Carolina was determined to resuscitate its medical school that had lain dormant for five years. Dr. Richard Henry Whitehead responded to the Macedonian call of the University for help. In 1890 he became officially dean of the medical school and professor of anatomy. For the next six years Dr. Whitehead was, indeed, the medical school. The instruction during those infant years was limited to first-year medicine. It must be remembered, however, that few, if any, schools 50 years ago had a medical curriculum that occupied four years.

But in the '90s the beginning of an awakening in various fields of activity was obvious. In the domain of medicine, for example, objects in the world of the invisible were becoming of more concern than the mightiest monsters. Tiny little plants, visible only by the help of a powerful microscope, were asserted by some of the new-thought medical men to be the causes of such deadly diseases of typhoid fever and consumption. The very idea must have seemed ridiculous to some of the older physicians. But, such notions necessitated the use of microscopes and places in which to use them—called

and places in which to use them—called laboratories. The credo of the new thought was: I can know.

Dr. Richard H. Whitehead was not of such somatic structure or of such manner as to cause one to ask: Who is he? He was neither large nor small; his hair and his mustache were light, his eyes hazel. He walked with a certain stoop; but he looked upon the world about him with those keen hazel eyes, and he thought of what he saw. He spoke with a voice a trifle nasal, quietly, genially with intimates, but always with a certain aloofness to others. He was a kindly, courteous, tolerant man, and modest, as well. He possessed none of the emotionalism that we associate with the South. He did not indulge in the cup, nor in raucous jest and speech, nor in glorification of the South's deathless history.

He was a scientist: patient, earnest, tireless, humble, honest, hopeful. He did not use language prodigally, but carefully and always purposefully. His lectures were always prepared. He knew always what he was going to say; he said it simply, plainly, accurately, without repetition. Even unintimate association with him was stimulating. One felt that within him the fire of enthusiasm was always glowing. Until 1896 he was the medical school.

In 1896, in the person of Dr. Charles Staples Mangum, one—perhaps many—of those hopes came to him. He, too, not unlike Dr. Whitehead, came out of a home in which the thought had been not of self but always of others. His father, Adolphus Williamson Mangum, had become a member of the faculty of the reborn University in 1875, after many years of service as a minister.

At the age of 5 years, Dr. Mangum came in 1875 with his parents to the University, and with it he lived continuously, save when a medical student in the North, until his death on September 29, 1939. He was an academic graduate of the University in 1891, and a student in the medical school under Dr. Whitehead in 1891-92, during which period he was also athletic director of the University. In 1894 he was graduated from Jefferson Medical College high up in a large class. He won the coveted Therapeutics Prize. For a year he gave himself over to practice in the coal fields of Pennsylvania. Then he was called back to Jefferson as a demonstrator of anatomy. Dr. Hobart A. Hare, Jefferson's well-known professor of materia medica, longed for Dr. Mangum as his assistant, for each was after the other's heart. Dr. Mangum must have experienced pain in declining the call to Jefferson.

In 1896, Dr. Mangum came to the school as professor of physiology and of materia medica. The school then became a two-year school. We should bow our heads in thankfulness to God for directing to this University Dr. R.H. Whitehead and, six years later, Dr. C.S. Mangum. Their coming meant the beginning of medical education in North Carolina. I pray that medical education shall be continued here until time shall have become only a memory.

(Dr. Mangum) was one of the most appealing figures I have every known. He was physically handsome; there was a lightness about his movements and a grace about his carriage, and there was about him the radiation of vitality and of joyousness such as I have observed in no other mortal. It was a privilege merely to look upon his enjoyment of life. He went about the village and on the campus and in classrooms and in homes in glad communion with all—blacks and whites, old and young, students and faculty members. He carried himself erect, with so little apparent effort that his transmutation of energy into action constituted a high art of which he was wholly unconscious. He had a clear-cut countenance, a face suggestive of a living cameo; a vibrant, cheery, musical voice, that carried always gladness and hope. Dr. Mangum touched every phase of University life. He knew all in the village. He was musical, with his voice and with the guitar.

He mingled freely with faculty members and with students. I have long felt that he did more than any other to bridge across that chasm betwixt students and teachers that was in the olden days so deep and so impassable. But if it existed for (Dr. Mangum) it did not block his passage, for he skimmed along blithely from student group to faculty meetings, as easily a member of the one group as of the other. So doing, he performed a splendid service in democratizing and humanizing university life.

*Richard H. Whitehead, M.D.*
*Dean: 1890 - 1905*

*Charles S. Mangum, M.D.*
*Dean: 1933 - 1937*

I was his student. I have never known a better teacher. He had a quickly perceiving mind; he possessed skill, verbal and other kinds, in imparting his own knowledge to his students; and he aroused them to their best efforts. His familiarity with them, and theirs with him, did not prevent him from giving them what he thought they deserved for laziness and for imperfect work. His attitude toward students was more sympathetic than Dr. Whitehead's.

Dr. Whitehead resuscitated a dead medical school. He came near to making the school out of nothing save out of himself. Would it not sound blasphemous I might say he did that. Did not Dr. Mangum create the second year of the school? I should say so. And Dr. Mangum, in addition, caused to be created or assembled here, during his deanship, the Division of Public Health. I suppose both schools so intermingle their activities that one cannot be entirely differentiated from the other.

In 1905, Dr. Whitehead was called to the deanship of the medical school and to the chair of anatomy at the University of Virginia. He had occupied those positions in this University throughout the 15 years that he was a member of this faculty. He accepted the call to Virginia. And there in 1916, at the too-early age of 51, he died.

I have not spoken of the old dissecting hall of my day, of its barrenness, of its uncomfortableness and its bleakness, nor of Bill Jones' failure, generally, to have the stove heated even on the coldest morning. What matters it? Where Dr. Whitehead and Dr. Mangum were there the medical school was. The mightiest sermon was preached on a barren hilltop; the most impressive teaching was done as Socrates strolled about over the Greek peninsula.

I look upon the New Medical Building with pride and satisfaction and with gratitude. But you, students and teachers, I look upon as the spirit of the medical school. Such as you constitute the basis of the hope of a mad world. May God keep you in strength and in courage.

# Returning to Her Roots

*To understand Native American medicine, one must realize that for Native Americans, medicine and religion are virtually identical.*

—Charlene Avery, University of Arizona College of Medicine, Executive Council Member, Association of Native American Medical Students. (*Journal of the American Medical Association,* May 1, 1991)

**By Beverly B. Thompson**

In June, Frances Owl-Smith, M.D., left Chapel Hill to return to her American Indian roots—not to her native Cherokee, where she grew up on a reservation, but to Arizona to practice at the Phoenix Indian Medical Center.

A 160-bed hospital that has "busy clinics and does quite a few surgeries," Owl-Smith said PIMC serves a large, urban Phoenix Indian population. But unique to this hospital, and what impresses Owl-Smith, is that this hospital provides a way for American Indian patients to merge traditional ways with modern medicine.

"Patients can have their traditional healer or medicine person come to the hospital to perform certain rituals at the hospital if they desire. When you take a person, especially an elderly person, who has grown up on a reservation, and you put them in a strange situation—in a hospital, they are alienated from their culture. If you can allay some of their fears by having their medicine person come in to perform a traditional ceremony before surgery or childbirth, for example, then I think that's pretty important."

Owl-Smith said that in the last decade there has been a resurgence of the importance of traditional medicine or healing—getting back to one's culture, spirituality and traditions—and she feels that incorporating this into Indian health care is a positive move. "We are now realizing the need to have that aspect of American Indians' health care included in their overall health care."

One of approximately 300 Native

*Photo by Bruce Rinne*

*Frances Owl-Smith, M.D., at the microscope in the Surgical Pathology Sign Out Room at UNC Hospitals.*

American physicians in the country, Owl-Smith is active in the Association of American Indian Physicians, which advocates for health care concerns affecting the nearly 2 million American Indians.

"Each year, the organization's annual meeting is the one big event in my life that means so much to me. I interact with other American Indians who share my culture, my heritage, my goals and other aspects of my life. More importantly, we discuss the health care needs of the American Indian population. It really gives me a sense of purpose and renews my spirit."

Owl-Smith, 42, who has a youthful charisma about her, completed her pathology residency at the University of North Carolina Hospitals in May. She earned her medical degree from the UNC School of Medicine in 1987, becoming the first female, and only the second person, from the Eastern Band of Cherokee Indians to graduate from medical school.

"It was really nice, because at my graduation, the chief of our tribe came down to congratulate me, and that meant a lot to me," Owl-Smith said. "Usually, though, I don't realize the impact of it all. But it is, personally, very rewarding when I go home to Cherokee, and everybody is telling me how proud they are (of me)."

Owl-Smith specialized in forensic pathology, and says she's always been interested in that "investigative" aspect of medicine. "I've enjoyed the interaction with a legal aspect of death investigations. Working with law enforcement agencies and testifying in court also has been very interesting," she said.

Despite the apparent sense of purpose and direction that Owl-Smith possesses, her life was not always so goal-driven.

"I grew up on the reservation, was an average student and had average grades. I participated in sports and had a high school boyfriend who went off to the Army during the Vietnam era. I really just never thought I was smart enough to go to college and was really never encouraged to go to college either by my counselors or by my parents. My father, who has a ninth-grade education, and my mother, who has an eighth-grade education, were just happy their kids completed high school. However, they were a tremendous source of moral support."

After high school, Owl-Smith married her high school sweetheart, had three children and worked as a teacher's aide in the Cherokee school system. Then at age 28, it hit her.

"I think I had an early mid-life crisis. I decided I needed to do something else with my life. Is this all there is? What are my kids' futures going to be like?"

Owl-Smith found her answers in college. After obtaining a scholarship from the Indian Health Service, a government agency that provides comprehensive health services delivery for American Indians, she enrolled in Western Carolina University. She said she hadn't given much thought about going into medicine until one of her professors approached her about the subject.

"I immediately thought, 'no way!' Just going to college was a big enough challenge for me, trying to manage three kids and studying. It was such a terrible experience for me to begin with. My husband, Doyle, came home to no dinner, dirty dishes and dirty laundry. But we later learned how to cope and he learned that he had to help. With his support and understanding, we made a lot of changes in our lives," she said.

During the summer between her junior and senior years, Owl-Smith participated in the UNC Medical Education Development Program. "Here I was, me, with three kids at home, living in a dorm!" She performed well, later took the Medical College Admissions Test and was accepted at the UNC School of Medicine.

"Moving to Chapel Hill was a big transition for my family. My husband was happy, but a bit insecure. He's a barber and, in this environment, everyone assumes that if a woman is going to medical school and she's married, that her husband must be a doctor or a lawyer," she said. What she describes as a "telephone relationship with my family" was especially tough on her children, two of whom were in their teens.

It was during her third year of medical school when she went through a second crisis. "My ultimate goal was to eventually return home and practice family medicine. But during my third year, I went through the different rotations and clinical clerkships and I worked really hard. I didn't get a lot of sleep and I didn't see my children very often. I really felt torn between medical school obligations and parental obligations. That was when I decided that my goal of becoming a primary care physician, which, among other things, required being on call every third night, was too much. I decided to go into pathology, a field I've always liked and seemed very challenging to me. It also seemed like a natural progression since I had a bachelor's degree in medical technology."

Her decision haunted her. "I went through a period of feeling very guilty, because here I am, the first woman from my tribe (to attend medical school). Whenever I'd go home for a visit, people would say 'Oh, you're going to come back and be our doctor.' I'd have this terrible guilt feeling, thinking that I wouldn't be able to do that. I had a hard time giving up my dream and feeling as though I was letting people down. But I think I did what was best for me and my family."

Owl-Smith described her medical school experience as positive. She said that Gregory Strayhorn, M.D., associate dean of academic and study programs, was an important role model in her development. She added that Robert Reddick, M.D., Kenneth M. Brinkhous Distinguished Professor of Pathology, with whom she worked during her residency training, is "like the ideal pathologist, the kind of pathologist I'd like to be."

Since joining the Association of Native American Medical Students, and now as a member of the AAIP, Owl-Smith has been active in addressing issues such as access to health care among American Indians.

"A lot of our problems are the same that affect everyone else, including heart disease, diabetes, cancer, alcoholism and accidents. But the difference is access. For example, mammography screenings are not available on a regular basis on any reservation, or at any of the Indian Health Service institutions across the country. And out West, American Indians sometimes have to travel great distances over rough terrain just to get to a clinic."

Education, preventive medicine and the shortage of American Indian physicians—(Indian Health Care Service predicts a shortage of 300 physicians this year)—are just a few other major issues facing American Indian health care, said Owl-Smith. "My concept of health care for the American Indian population is that it is wide open for improvement."

Owl-Smith says she plans to do her part by keeping active in the AAIP and by helping other American Indians pursue careers in medicine. When she was in Chapel Hill, she often returned to WCU to speak to students about careers in medicine and was always available to speak to students individually.

Owl-Smith's plans right now are for the family to enjoy residing in the Phoenix area for the next four years while she fulfills her scholarship obligation. Children, Travis, 22, and Natalie, 14, decided to move with their parents to Phoenix, while Hannah, 20, chose to remain in North Carolina. She plans to study cytotechnology at East Carolina University in the fall.

Owl-Smith says she's neither sure, nor worried about what the future holds. "When I look at the bottom line of why I'm doing things, it's to make a difference. It's also to ensure that my children's future will be brighter, more diverse. I think that's coming true."

# Peripheral Vascular Laboratory Offers Alternative For Diagnosis

Using ultrasound for clinical diagnostic imaging has revolutionized many areas of medicine. At the University of North Carolina medical center, one of the areas significantly changed by the use of this technology is the Peripheral Vascular Laboratory.

The laboratory, which recently moved to new quarters on the first floor of the Anderson Pavilion wing of UNC Hospitals, was one of the first such laboratories established nationwide.

"The Peripheral Vascular Laboratory is an integral part of the vascular services offered at UNC Hospitals," said Blair Keagy, M.D., chief, Division of Vascular Surgery.

Specializing in comprehensive, non-invasive testing, the lab uses several types of state-of-the-art ultrasound to provide more options than ever before for the clinical diagnosis of vascular disease. For some patients, the use of ultrasound techniques provides an alternative to invasive methods of assessing vascular disease.

Doppler ultrasound, which was introduced to the medical community in the early 1970s, is useful for examining moving objects. It is extremely beneficial for determining blood flow through blood vessels and detecting flow disturbances.

The technique works by bouncing very high-frequency sound waves (inaudible to the human ear) off moving red blood cells. After the wave contacts the blood cells, the reflected sound waves are converted by a transducer to electrical energy, producing a pattern that yields diagnostic information.

The resulting image from this painless procedure indicates whether or not internal abnormalities exist or foreign masses are present.

"Ultrasonic examinations provide physicians with quantitative information regarding the location and functional significance of many vascular conditions," said Steven J. Burnham, M.D., professor of surgery and medical director of the laboratory.

"Ultrasound enables us to diagnose vascular disease in three major areas: in carotid arteries, to reduce a patient's risk of stroke; in peripheral arteries in arms and legs, to document the presence of disease and its severity; and in peripheral veins, to look for deep vein thrombosis and problems with valvular insufficiency, which can result in varicose veins," Keagy said.

"The major benefits provided by ultrasound technology are it is non-invasive, inexpensive, more precise than previous testing techniques, improves the quality of care provided and may save patients from having to undergo invasive procedures," Steven Burnham said.

*Color Doppler ultrasound is particularly useful for assessing patients with grafts, such as bypass grafts. With this technique, physicians can identify problems before they happen.*

"Before we had ultrasound 20 years ago, we admitted 100 percent of our patients, injected them with a contrast material that is visible on X-rays and X-rayed them as a diagnostic procedure. But only 40 percent of them needed these invasive angiograms because most of them did not have vascular problems. Now, we never see normal angiograms because the lab tells us ahead of time who has disease, where the worst segment is and how bad it is. Additionally, for some patients, so much clinical information is obtained by using ultrasound that there is no need to perform an angiogram at all.

**For some patients, the use of ultrasound techniques provides an alternative to invasive methods.**

"Ultrasound often produces information that was previously unavailable," he said. "When we performed clinical exams 14 years ago (before the lab was established), we often could not distinguish subtle differences between deep vein thrombosis and musculoskeletal injuries. Now, by using Doppler ultrasound, we're always right."

Another tool used in the lab is a Duplex scanner, which identifies disease sites. Hemodynamically significant lesions could be identified as stenoses or occlusions and the percent of stenosis can be quantified, Steven Burnham said. The recent addition of color Doppler to this technique has reduced examination times. "Four years ago, what we had been listening to (the Doppler echos) now is encoded in color."

As blood flows through blood vessels, faster blood flow is shown as a different color on a video screen. "Color helps the examiner locate the vasculature, particularly in the calf where arteries and veins are small; additionally, it distinguishes arteries from veins," said Cynthia B. Burnham, R.N., supervisor of the lab. "Previously it had been very difficult to see these blood vessels, but now it is easy.

"Color also is used to identify those sites requiring further investigation by Doppler spectral analysis. After a problem is identified, a point sample determines the severity of the stenosis," she said.

Long blood vessels can rapidly be scanned using this technique. "A graft running from the top of the leg all the way to the foot can be examined in about 15 minutes. Before we had color imaging, this was impossible to do," she said.

"Color flow duplex ultrasound is particularly useful for assessing patients with grafts, such as by-pass grafts. Patients almost always are unaware of any problems with the graft until it fails. But, with this technique we can identify problems before they progress," she said.

"We do immediate post-operative studies on by-pass graft patients to check for blood flow," Steven Burnham said. "Our by-pass failure rate has decreased significantly because we can pick up trouble early and fix the graft before it becomes blocked.

"Physicians in the community send patients to the lab for vascular evaluations. The results of the studies are phoned back to them and then they plan the necessary therapy. Additionally, many patients in need of a graft are sent here, evaluated and operated on," Steven Burnham said.

Some of the other services the lab offers include:

• Segmental pressures and velocity waveforms to measure blood pressure at various limb levels to identify areas of hypotension and obstruction.

• Stress testing to evaluate the arterial system of the lower extremities to determine whether patients have arterial occlusive disease. This procedure also is useful in differentiating pain from arterial insufficiency from that of other conditions such as arthritis.

• Digital plethysmography and blood pressure, which provide information about blood flow in fingers and toes.

• Visceral artery duplex scan to permit visual and Doppler examinations of the abdominal aorta, superior messenteric artery and renal arteries.

Photo by Jay Mangum

*Steven J. Burnham, M.D., and Cynthia B. Burnham, R.N.*

• Photoplethysmography, which utilizes an infrared photoelectric cell to monitor volume changes in the subcutaneous tissue.

Most of these non-invasive, inexpensive procedures can be completed within an hour on an outpatient basis and can easily be repeated with little discomfort or risk to the patient.

Each year the lab evaluates about 4,000 total inpatients and outpatients and does two to three times as many studies. The lab, which is staffed with five R.N.s who are all registered vascular technologists, "allows patients to know much more up front, enabling them to participate in the decision-making process," Steven Burnham said. "We are able to inform patients about the extent of their disease, where it is located and how it can be fixed, while they are in the lab."

In July 1992, the UNC lab was among the first in the country to receive full, three-year accreditation from the Intersocietal Commission for Accreditation of Vascular Laboratories. This is its first year of accreditation authority. Cynthia Burnham said the only other laboratory in North Carolina to receive accreditation is in Wilmington.

# More UNC Graduates Choosing Primary Care

During the 1992 National Residency Match in March, the Univesity of North Carolina at Chapel Hill School of Medicine showed an increase in the number of graduates entering residency programs in primary care.

Out of a class of 157 students, 152 participated in the National Residency Match.

Eighty-six of these graduates selected residency programs in family medicine, internal medicine, pediatrics or obstetrics/gynecology as compared to 51 graduates last year.

While the numbers indicate a positive step toward meeting the growing demand for primary care providers nationally, they don't tell the whole story.

"More than 50 percent of our graduates go into a primary care discipline for their residency training," said William D. Mattern, M.D., associate dean of academic affairs. "The real concern nationwide is how many actually become primary care physicians, because, in some of the primary care disciplines, it's possible to specialize after residency training. A survey of our 1987 graduates indicates that only 20 percent of them (excluding obstetrics/gynecology) are actually practicing primary care."

In response to the national and statewide shortage of primary care providers, the School of Medicine has initiated educational programs to encourage students to enter and to practice primary care.

"We have made significant changes in our curriculum to shift education into the ambulatory setting," Mattern said.

"We have a new family medicine clerkship in the third year, a community health project as an elective and a fourth-year selective in ambulatory care in community-based practices.

"It's too soon to tell if these new programs will have an impact, but we should have an idea of their effectiveness in a few years."

The total numbers of UNC Medical School graduates who have continued their education in primary care residency programs during the past four years are:

| | Family Medicine | Internal Medicine | Pediatrics | Obstetrics/ Gynecology | Total |
|---|---|---|---|---|---|
| 1989 | 14 | 20 | 10 | 8 | 52 |
| 1990 | 17 | 19 | 13 | 7 | 56 |
| 1991 | 10 | 22 | 8 | 11 | 51 |
| 1992 | 21 | 33 | 17 | 15 | 86 |

## 1992 Match Day Results

Overall, 83 percent of the School of Medicine's 1992 graduates were placed among their first three choices for residency positions.

Sixty-one percent were matched with their first choice.

Of the 54 students who are remaining in North Carolina for their graduate medical education, 29 will enter programs at UNC Hospitals.

**ALABAMA**
**Birmingham: University of Alabama Hospital**
John Carlos Brockington (Medicine-Preliminary) (PGYII Neurology-Advanced)
William Andrew Gramley (Internal Medicine)
Victoria K. Donovan Lackey (Medicine-Preliminary)
Walter Smith Morris III (Medicine-Primary)

**ARIZONA**
**Phoenix: Phoenix Children's/Maricopa**
Charles Richardson Martin Jr. (Pediatrics)

**CALIFORNIA**
**San Francisco: University of California Medical Center**
Charles King Bibby Jr. (Surgery-Preliminary)
Jane Timberlake Helwig (Obstetrics/Gynecology)

**Sacramento: University of California - Davis Medical Center**
Ruth Lee Bush (General Surgery)
**Sacramento: David Grant USAF Medical Center**
Anthony Mark Propst (Obstetrics/ Gynecology)
**Stanford: Stanford Affiliated Hospitals**
Rami Samir Kaldas (Obstetrics/ Gynecology)
**Ventura: Ventura County Medical Center**
Benjamin Keith Merritt (Family Practice)
**Salinas: Natividad Medical Center**
Gary James Pace (Family Practice)
**Orange: University of California, Irvine**
Nancy Law Wood (Pediatrics)

**COLORADO**
**Denver: University of Colorado School of Medicine**
Nancy Carol Clayton (Psychiatry)
Lisa Ware Corbin (Internal Medicine)
Cynthia Kay Crews (Internal Medicine)
Lisa Marguerite Grana (Obstetrics/ Gynecology)
Stephen Robert Drago Hindes (Family Practice)
Bradford Tracy Winslow (Family Practice)

**CONNECTICUT**
**Farmington: University of Connecticut**
Andrew Roland Baxter (Surgery - Preliminary) (PGYII Otolaryngology-Advanced)
Janice Ann Oliveri (Internal Medicine)
**Norwalk: Norwalk Hospital**
Dipa Harish Patel (Medicine - Preliminary)

**DISTRICT OF COLUMBIA**
**Washington: Walter Reed Army Medical Center**
Keith James Baugh (Transitional)
**Washington: Howard University Hospital**
Michael Isley (Anesthesiology)
**Washington: Georgetown University Hospital**
Tony Marrone Wright (Anesthesiology)

**FLORIDA**
**Gainesville: University of Florida Medical Center**
Billie Forehand Cosgrove (Pediatrics)
Christopher Church Cosgrove (Internal Medicine)
John Francis Ende (Radiology - Diagnostic)
Ayanna Ntianu Kambon (Pediatrics)
Arlene Carmela Sena (Internal Medicine)

Photos by Dan Crawford

*Mary Martha Bledsoe, left, celebrates with her sister, Margaret Bledsoe.*

**Jacksonville: University of Florida College of Medicine**
Evan David Evans (Radiology - Diagnostic)

**GEORGIA**
**Atlanta: Georgia Baptist Medical Center**
Scott Keenan Garrison (Transitional)
**Atlanta: Emory University School of Medicine**
Scott Keenan Garrison (PGYII Anesthesiology-Advanced)
Robert Brian Raybon (Obstetrics/ Gynecology)
Charles Duane Wells (Internal Medicine)
**Augusta: Medical College of Georgia**
Katrina Howard Avery (Obstetrics/ Gynecology)

**ILLINOIS**
**Chicago: McGaw Medical Center - Northwestern University**
William Perry Killam (Obstetrics/ Gynecology)
William Vancleef Yount (Emergency Medicine)
**Chicago: University of Chicago Hospitals**
Marisa Romilda D'Silva (Internal Medicine)
**Maywood: Loyola University Medical Center**
William Howard McAllister IV (Neurological Surgery)

**IOWA**
**Iowa City: University of Iowa Hospitals and Clinics**
Nilesh Vithalbhai Patel (Internal Medicine)

**KENTUCKY**
**Lexington: University of Kentucky Medical Center**
William Matthew Figlesthaler (Surgery - Preliminary) (PGYII Urology - Advanced)
**Louisville: University of Louisville School of Medicine**
Hans Peter Roethling (Obstetrics/ Gynecology)

**MARYLAND**
**Baltimore: Francis Scott Key Medical Center**
Gerald Earl Cooley (Internal Medicine)
**Baltimore: The Johns Hopkins Hospital**
Veronica Denine Mitchell (PGYII Anesthesiology - Advanced)

**MASSACHUSETTS**
**Cambridge: Cambridge Hospital**
Jon Wesley Boyd (Transitional) (PGYII Psychiatry - Advanced)
**Boston: Massachusetts General Hospital**
Barrett Tyler Kitch (Internal Medicine)
**Boston: Beth Israel Hospital**
Martin Tropper November (Obstetrics/ Gynecology)

*Cullen Ruff and Lisa Grana give each other a "five" after finding out where they'll do their residencies.*

**Boston: Boston City Hospital**
Dipa Harish Patel (Radiology - Diagnostic - Advanced)
Janet Susan Protiva (Pediatrics)

**MICHIGAN**
**Ann Arbor: University of Michigan Hospitals**
Jorge Anibal Allende Jr. (Medicine - Pediatrics)
Michael William Kendall (Internal Medicine)
**Kalamazoo: MSU-Kalamazoo Center**
Christopher John Gunnell (Family Practice)

**MINNESOTA**
**Minneapolis: University of Minnesota Hospitals & Clinics**
Mary Joan Forbes (Internal Medicine)
**Rochester: Mayo Clinic**
David Aslan Konanc (PGYII Neurology - Advanced)
William Carlson Logan Jr. (General Surgery)
Larry Randell Padgett Jr. (Orthopedic Surgery)

**MISSOURI**
**St. Louis: Barnes Hospital**
Anand Venkateswar Ramanathan (Internal Medicine)

**NEW HAMPSHIRE**
**Lebanon: Dartmouth-Hitchcock**
Pamela Cullie Jenkins (Pediatrics)
David Hyosup Song (Internal Medicine)

**NEW MEXICO**
**Albuquerque: University of New Mexico School of Medicine**
Lindsay Caldwell Bridges (Family Practice)

**NEW YORK**
**Bronx: Montefiore/Einstein**
Lisa Anne Tumey (Pediatrics)
**Bronx: Montefiore Medical Center**
Philip Lee Baird (Family Practice)
**Rochester: Strong Memorial Hospital**
Thomas Robert Comerci (Medicine - Primary)
**New York: Beth Israel Medical Center**
Amulya Madhavi Reddy (Internal Medicine)
**Rochester: Highland Hospital of Rochester**
Chinda Hopkins Roach (Family Practice)

**NORTH CAROLINA**
**Asheville: Mountain Area Health Education Center**
Cathryn Ann Kaylor (Family Practice)
Rita Elizabeth Treanor (Family Practice)
**Chapel Hill: University of North Carolina Hospitals**
Mark Alfred Anderson (Pediatrics)
Richard Alan Bennett (Psychiatry)
Jerry Lee Browne (Internal Medicine)
Linda Hipp Butler (Pediatrics)
Crystal Lynn Caudle (Anesthesiology)
Carol Lynn Czop (Medicine - Preliminary)
Laura Burton Ellis (PGYII Anesthesiology - Advanced)
Margaret Frederick Farmer (Pediatrics)
Elizabeth Barbee Gibbons (Family Practice)
James Graham Hall (PGYII Ophthalmology - Advanced)
Kenneth Jay Headen (Psychiatry)
Laura Elizabeth Heyneman (Pediatrics)
Ron Lawrence Kaplan (Pediatrics)
Stephanie Heindel Kaplan (Obstetrics/Gynecology)
Andy Christopher Kiser (General Surgery)
David Aslan Konanc (Medicine - Preliminary)
Robert Eric Larson (Radiology - Diagnostic)
Thomas Craig Logan (Surgery - Preliminary) (PGYII Otolaryngology - Advanced)
Susan Rita Marcinkus (Anesthesiology)
Stacy Lee Walton Moore (Internal Medicine)
Deborah Lynn Morris (Internal Medicine)
Michael Garrett O'Reilly (Internal Medicine)
Tamara Fisher Patsey (Surgery - Preliminary)
Ramon Dennis Peleaux (Surgery - Preliminary)
Sheley Rene Revis (Medicine - Preliminary)
Carole Caldwell Sawicki (Family Practice)
Virginia Jeanette Schreiner (Pediatrics)
Randolph Phillip Sellers (Psychiatry)
Anuj Sharma (Family Practice)
Scott Victor Smith (Pathology)
Derek Lynn Stirewalt (Internal Medicine)
Susan Marie Weeks (Radiology - Diagnostic)
**Charlotte: Carolinas Medical Center**
James Bennett Holleman Jr. (Surgery - Preliminary)
Todd Michael Kopczynski (Obstetrics/Gynecology)
Jerry Franklin Matkins (Obstetrics/Gynecology)
Preeti Vithalbhai Patel (Pediatrics)
Derrick Llewellyn Robinson (Internal Medicine)
Lisa Diane Rohde (Internal Medicine)
**Durham: Duke University Medical Center**
David Paul Adams (Family Practice)
Marcel Daniel Bingham (Internal Medicine)
William Edward Mangano (Pathology)
Gurpreet Singh (Psychiatry)
Anjali Mittra Sues (Family Practice)
Clifford Roberts Wheeless (Orthopedic Surgery)
Karen Suzanne Wood (Pediatrics)
**Greensboro: Moses H. Cone Memorial Hospital**
Anthony David Bray (Family Practice)
Lisa Ann Brone (Family Practice)
Ronnie Lynn Jacobs (Internal Medicine)
Robert Ray Johnson Jr. (Family Practice)
Christopher Wayne Sturbaum (Medicine - Preliminary)
**Greenville: Pitt County Memorial Hospital**

Joseph Angelo Mannino (Physical Medicine & Rehabilitation)
**Winston-Salem: North Carolina Baptist Hospital**
Carol Lynn Czop (PGYII Anesthesiology - Advanced)
Coty Phuong Hoai Ho (Surgery - Preliminary)
Dipak Jaysukh Ranparia (Surgery - Preliminary) (PGYII Urology - Advanced)
Peter Russell Young Jr. (General Surgery)
**Wilmington: New Hanover Memorial Hospital**
James Graham Hall (Medicine - Preliminary)

**OHIO**
**Cincinnati: University of Cincinnati Hospitals**
Mark Jeffrey Abrams (Otolaryngology)
**Cleveland:Cleveland Clinic Foundation**
Edward John Primka III (Dermatology)
**Cleveland: Fairview General Hospital**
Lynda Rozas Primka (Family Practice)

**PENNSYLVANIA**
**Pittsburgh: University Health Center of Pittsburgh**
John Hinty Burton (Emergency Medicine)
Kalpana Vedavyasa Char (Internal Medicine)
Kim Chree Windley (Obstetrics/ Gynecology)
**Philadelphia: Hospital of the University of Pennsylvania**
Laura Elizabeth Heyneman (PGYII Radiology - Diagnostic - Advanced)
**Philadelphia: Thomas Jefferson University**
Robert Wall Larkin Jr. (Obstetrics/ Gynecology)
**Philadelphia: Graduate Hospital**
Veronica Denine Mitchell (Medicine - Preliminary)

**SOUTH CAROLINA**
**Spartanburg: Spartanburg Regional Medical Center**
Laura Burton Ellis (Transitional)
**Charleston: Medical University of South Carolina**
Mark Walter Jenison (Internal Medicine)
**Columbia: Richland Memorial Hospital**
Diane Sue Litke (Orthopedic Surgery)
**Greenville: Greenville Hospital System**
Johnny Clayton Weeks III (Obstetrics/ Gynecology)

**TENNESSEE**
**Nashville: Vanderbilt University Medical Center**
Mary Martha Bledsoe (Pediatrics)

*It's a happy day for Ted Thompson, left, and Kent Guion.*

Deborah Michele Gardner (Internal Medicine)
Renee Brontae Melton (Internal Medicine)
Jennifer Elaine Moore (Pediatrics)
Stephen Lloyd Tilley (Internal Medicine)
**Chattanooga: University of Tennessee College of Medicine**
Thomas Robert Moore (Surgery - Preliminary)

**TEXAS**
**Houston: Baylor College of Medicine**
Juan Carlos Franco-Franco (Medicine - Preliminary)
John Polk Williams (General Surgery)
**San Antonio:University of Texas Health Science Center**
John Thomas Harris (Psychiatry)
**Dallas: Baylor University Medical Center**
Gordon Hunter Martin (General Surgery)
**Galveston: University of Texas Medical Branch**
Bobby Ray Miller Jr. (General Surgery)
Christopher Wayn Sturbaum (PGYII Ophthalmology - Advanced)
**Dallas: University of Texas Southwestern Medical School**
James William Wilson Jr. (Orthopedic Surgery)
Thalia Bratton Forte (Radiology - Diagnostic)

**VIRGINIA**
**Richmond: Medical College of Virginia**
Elizabeth Delpit Cressy (Internal Medicine)
Elena Michelle Irene Garris (Radiology - Diagnostic)
**Norfolk: Eastern Virginia Graduate School of Medicine**
Gregory Ronald Davis (Emergency Medicine)
Thor Owen Svendsen (Obstetrics/ Gynecology)
**Roanoke: Roanoke Memorial Hospitals**
Kenneth Lee Jacobs (Obstetrics/ Gynecology)
**Charlottesville: University of Virginia**
John Currie Mason (Surgery - Preliminary) (PGYII Otolaryngology - Advanced)
Jean Pratz Woodard (Psychiatry)
Joseph Paul Woodard Jr. (Pediatrics)

**WASHINGTON**
**Seattle: University of Washington Affiliated Hospitals**
David Samuel Blythe (Internal Medicine)
Sarah Ellen Daughtridge (Internal Medicine)
Douglas Henry Esposito (Pediatrics)
Susan Jolene Whitney (Anesthesiology - Advanced)
**Seattle: GHC-Family Practice**
Erika Anu Steinbacher (Family Practice)

**WISCONSIN**
**Milwaukee: St. Mary's HP-Milwaukee**
Marcella Taylor McCord (Family Practice)
**Marshfield: Marshfield/St. Joseph's**
Susan Jolene Whitney (Transitional)

# Development Notes

## Alumni Giving and Participation Up

At the 1992 Spring Alumni weekend banquet, the Medical Foundation of North Carolina reported that alumni giving to the Loyalty Fund has increased as various groups of alumni have continued to challenge each other to increase not only gifts and pledges, but also participation.

Alumni from the 25-year reunion class of 1967 topped the 30-year reunion class of 1962 by committing $89,772 with 85 percent participation. Class of 1962 alumni pledged $46,000 with 77 percent participation.

In a separate Loyalty Fund challenge, alumni residing in Mecklenburg and Guilford counties both claimed victory. Alumni in Mecklenburg County raised $42,512, while Guilford County alumni raised $41,159.

However, Guilford County alumni had higher participation with 46 percent, compared to Mecklenburg County's 39 percent.

"More and more alumni are realizing the importance of their involvement with their alma mater. More than 125 alumni were active in the 1991-92 Loyalty Fund campaign, and much of the credit and the program growth goes to those who give generously of their time and resources. John Foust continues to be an outstanding leader and a great inspiration," said Jane McNeer, associate director of the Medical Foundation and director of alumni development.

Another boost to the Loyalty Fund came from the graduating Class of 1992, with 45 percent of its members committing $16,625.

Loyalty Fund contributions help support ongoing programs for students, faculty and alumni by providing funding for scholarships, the Whitehead Society and the student research publication.

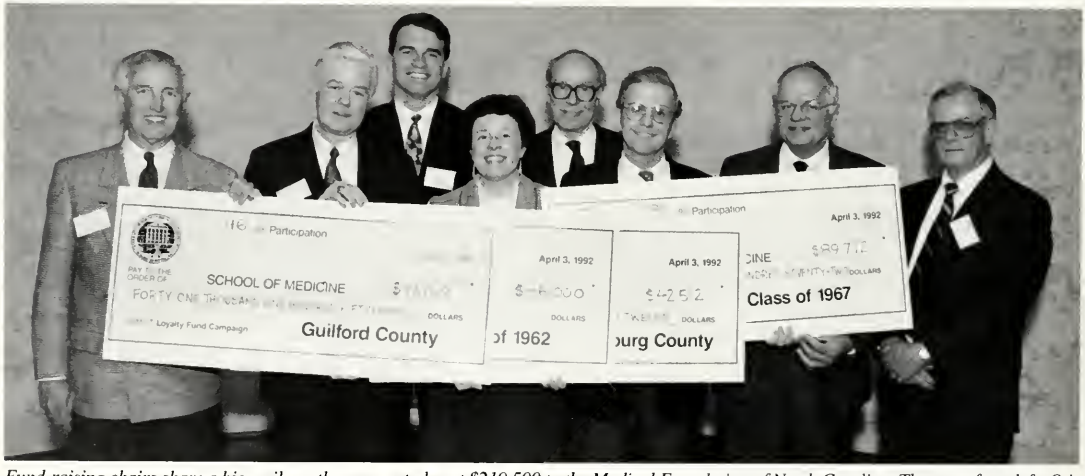
## Crowder Joins Foundation Development Office Staff

Edward D. Crowder has joined the Medical Foundation of North Carolina, Inc., as assistant director of alumni development and assistant director of the Medical Foundation.

Prior to joining the Foundation staff, Crowder was the associate campaign director for the United Way of Wake County in Raleigh.

"We are excited about Ed Crowder's decision to join the Medical Foundation. He brings a great deal of enthusiasm and experience to the staff, and we expect him to have an immediate impact on the growth of the Alumni Development Program," said Jane McNeer, associate director of the Medical Foundation and director of alumni development.

He is a 1982 graduate of the University of Florida at Gainesville.




*Fund-raising chairs share a big smile as they present almost $219,500 to the Medical Foundation of North Carolina. They are, from left: Otis Fisher, M.D. '59, co-chair of the Guilford County campaign; Larry Cutchin, M.D. '62, chair of the 30th-year reunion campaign; Scott Garrison, M.D. '92, chair of the Class of '92 campaign; Darlyne Menscer, M.D. '79, co-chair of the Mecklenburg County campaign; Dean Stuart Bondurant, M.D.; Jim Hundley, M.D. '67, chair of the 25th-year reunion campaign; John Foust, M.D. '55, national chair, Loyalty Fund; and Bill Easterling, M.D. '56, associate dean of alumni affairs and continuing medical education. Other leaders not pictured are Shahane Taylor, M.D. '59, co-chair of the Guilford County campaign, and Mack White, M.D. '79, co-chair of the Mecklenburg County campaign.*

# News Briefs

## Gene Targeting Research Helps in Disease Study

Using a genetic technique that he pioneered, Oliver Smithies, D. Phil., professor of pathology at the School of Medicine of the University of North Carolina at Chapel Hill, and his colleagues are creating models of two common genetic diseases.

The models will provide researchers with an improved understanding of how a person with sickle cell anemia or cystic fibrosis might be treated.

"Scientists understand the genetic causes of these diseases, but are hampered in their study of treatment of the diseases because of a lack of appropriate models," Smithies said.

"We want to make models of these two diseases because cystic fibrosis is the most common genetic disease in white people and sickle cell anemia is the most common single gene defect in black people.

"Although you can do a lot of preliminary work in test tubes to establish what might help treat these genetic diseases, when it comes to the final analysis, seeing what is happening in a test tube is not the same as knowing what actually is happening in a patient," he said.

As an example he cites what happens to the red blood cells in people with sickle cell anemia. The cells become deformed and block the capillaries. Often the capillaries in the hands are affected, causing the patients severe pain.

"In the laboratory, we can deform the cells into the sickle shape but we cannot create blood vessels for them to travel through," Smithies said. "Without capillaries we are unable to re-create the blockage in the laboratory, nor see how to modify this event in a person."

Another avenue of investigation some scientists use is computer models. But the processes involved in the diseases Smithies is studying are too complex for computers to model, he said.

Using gene targeting, Smithies can manipulate in mice the specific gene responsible for either disease.

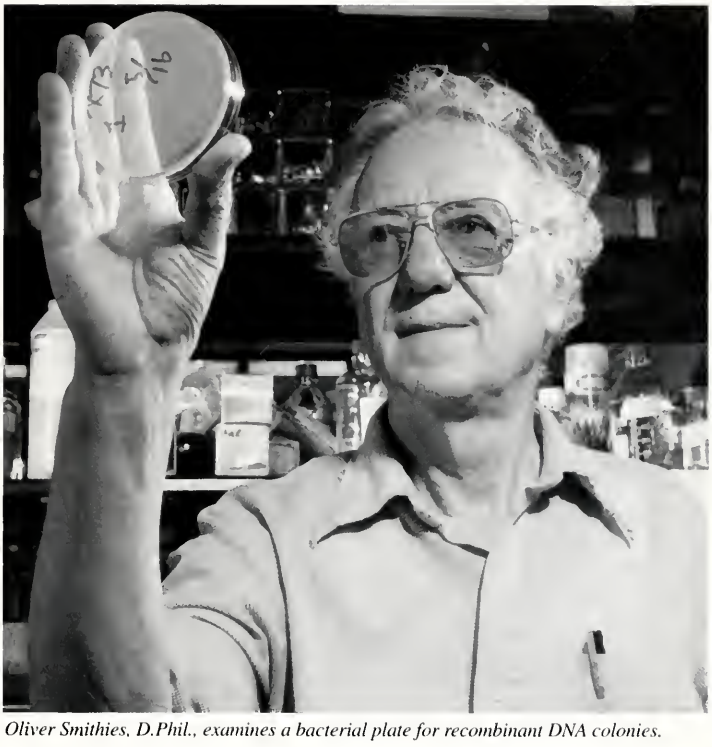


Photo by Jay Mangum

*Oliver Smithies, D.Phil., examines a bacterial plate for recombinant DNA colonies.*

Gene targeting is one of two ways used to incorporate human genes into cells from other animals. "The other method incorporates a human gene at random," Smithies said. "This produces transgenic models, or animals that carry the gene, but not in any particular place." The new gene does not modify a known gene.

"What we are doing through gene targeting is altering a natural gene of an animal in the place where it normally is found. We are altering it in a predetermined, controlled way, while leaving other genes unchanged," he said.

"Dr. Smithies is highly regarded for his research in gene targeting," said Joe Grisham, M.D., Kenan Professor and chair of UNC Department of Pathology. "This technique has great promise for improving scientists' capacity to manipulate genetic material and alter genes. Through molecular biology and biotechnology, Dr. Smithies is reaching new levels of understanding the human biological system in health and in disease.

"Eventually, the technique could be ap-

# News Briefs

plied to the study of virtually any disease whose genetic basis is at least partially understood. With gene targeting, scientists now are approaching ways not only to treat, but to actually correct mankind's worst diseases."

Using gene targeting, Smithies is trying to create laboratory mice that are susceptible to genetically acquired diseases. "We need animals with the same problems as humans."

Animal models are useful for testing the safety and efficacy of new drugs and other forms of treatment before they are administered to humans, and for providing a better understanding of disease progression, Smithies said.

"Additionally, these models will allow researchers to investigate the function of genes not related to any diseases. We'll be able to ask what happens if a given gene is not working and what happens to the animal—does it develop normally?"

Using sophisticated genetic engineering techniques, Smithies and his associates insert an inactivated form of the human gene for either sickle cell anemia or cystic fibrosis into cells taken from a mouse.

The newly inserted gene scans the mouse's genetic material and finds the spot where it fits in and then takes the place of the gene that was there.

"The magic of the procedure, is that the incoming human gene can find the right target, in some way that is not completely understood, and match up with it.

"If you think of the genetic message as a series of letters, say A through Z, and you put in DNA carrying the letters LM'N, this DNA can find the existing LMN region and cross over. Now you have LM'N, the altered gene, in the recipient cell, instead of LMN," Smithies said.

The newly changed cell is put into a developing mouse embryo. The mouse is born with the defective human gene in its cells. The process is time-consuming and rare. "Successful gene targeting happens only once in a million cells," Smithies said.

To produce mice with the disease, two mice that carry the human genes have to be mated. The subsequent offspring that receive the inactive gene for cystic fibrosis or sickle cell anemia from both the adult female and adult male should have the disease, as do human children.

Nobuyo Maeda, Ph.D., associate professor of pathology, is using similar techniques to make mouse models of coronary heart disease.

Developing these mouse models will be more difficult because the genetic causes for the disease are entangled with environmental factors such as diet. Once created, however, these animals should prove to be extremely useful in enabling researchers to develop drugs to combat the disease.

## Fetal Blood Transfusions Save Lives

Before she was born, Morgan Reinhard received seven blood transfusions. Without them, she would have died in utero from heart failure.

"It is clear that intravascular transfusions (transfusion of blood into the fetal circulatory system) are the only way of helping babies who are near death from hydrops, or heart failure, caused by severe anemia," said Nancy C. Chescheir, M.D., assistant professor of obstetrics and gynecology at the UNC School of Medicine.

"The transfusion results in an immediate increase in the baby's red blood cell count," Chescheir said. "With this procedure, moms who would ordinarily lose the baby can carry it full term. Without the procedure, the baby will die."

The baby's anemia is caused when the mother's immune system is activated against the baby's blood. Providing the baby with blood that lacks the problem-causing protein avoids triggering the maternal immune system. The blood—only a very small amount of blood; about three tablespoons—is transfused in a procedure known as cordocentesis.

The transfusions, which take about two hours to perform, are administered every two to four weeks, starting as early as the 22nd week of pregnancy. As the transfused red blood cells die, the baby becomes anemic again, necessitating retransfusion.

The transfusions are repeated until the baby's lungs will support it outside of the uterus.

Chescheir and her colleagues have started a new procedure that combines intravascular blood transfusions with an injection of red blood cells directly into the fetus' abdominal area, which is a site of good absorption.

"The intraperitoneal injection, which can be of higher volume, is absorbed over a longer period of time. By giving the baby an initial, immediate increase in the blood count with the intravascular transfusions and then a slower increase with the intraperitoneal transfusions, we hope that the number of procedures done to the mother and the baby can be reduced," said Chescheir,

*Nancy C. Chescheir, M.D.*

who has been performing blood transfusions on fetuses since 1987. Each year an average of eight to 12 women seen at UNC Hospitals need the intravascular transfusions to save their babies.

One of those rare babies was Morgan Reinhard. Today, Morgan is a happy and healthy baby and has no memory of the transfusions that enabled her to be born.

## UNC's New Center for Excellence in Nephrology Advances Kidney Research

Nephrologists at the School of Medicine at the University of North Carolina have begun a $2 million fund-raising campaign to establish a comprehensive Center for Excellence in Nephrology in Chapel Hill.

"We initiate this project from a position of strength, with preliminary commitments totaling approximately $1.4 million," said William B. Blythe, M.D., center director and chief, Division of Nephrology.

"Our center will be unique in that it will combine kidney disease research activities with patient care and serve as a training site for private-practice nephrologists from North Carolina and other parts of the country who will come here to advance their knowledge of kidney disease and enhance their abilities to provide treatment and care for their patients."

Dean Stuart Bondurant, M.D., said, "Over time, our faculty in nephrology has made enormous clinical contributions that have changed the thinking, treatments and practice of nephrology in this nation and throughout the world. The creation of the Center for Excellence in Nephrology is a new chapter in their ongoing commitment of reaching out to other nephrologists across North Carolina and the nation to ultimately serve their patients who suffer from kidney disease."

Blythe said, "I believe that the truly successful academic medical centers in the 21st century will be those that move away from academic isolation and toward creating an environment for the interaction of practicing physicians with representatives from academia, government and industry. That's our goal for the UNC medical center, and it is supported by an endowment to develop an interdisciplinary program to study renal health care and economics. This will tap expertise from other areas of the university, along with government, industry and private practitioners."

Other components of the Center for Excellence in Nephrology include professorship, faculty and fellowship endowments and a Practitioner-in-Residence program to bring nephrologists to Chapel Hill for "intellectual stimulation, refurbishment and enlightenment." Blythe said this program will expose nephrologists in private practice to the latest techniques in patient care and drug therapy.

Blythe, who is Marion Covington Professor of Medicine, has served as division chief in nephrology since 1973.

*Dean Bondurant joins Carl W. Gottschalk, M.D., Kenan Professor of Medicine and Physiology, Doc J. Thurston Jr., Stella Thurston and their son, D.J. Thurston III, to announce the Center for Excellence in Nephrology and the establishment of the D.J. Thurston III Professorship in Nephrology, funded by the Thurstons and faculty in the Division of Nephrology.*

## New Birth Defects Center Established at UNC

The University of North Carolina has established a Birth Defects Center which, through scientific research and clinical efforts, will prevent major malformations and congenital defects and provide better treatment for people born with birth defects —the leading cause of infant deaths.

"Under the auspices of the Birth Defects Center, clinicians and investigators in the School of Medicine will work collaboratively with our colleagues in the other health affairs

# News Briefs

schools in an interdisciplinary fashion to understand the underlying causes of birth defects and to prevent, diagnose and treat them," said Dean Stuart Bondurant M.D.

"The center will be a focal point for professionals and the public throughout the state and surrounding areas and will serve better to educate all those concerned with birth defects," said H. Garland Hershey, D.D.S., vice chancellor of health affairs.

"There is a definite need for this center," said Thomas W. Sadler, Ph.D., director of the center. "Birth defects contribute greatly to North Carolina having one of the highest infant mortality rates of all the states.

"The impact of birth defects on infant mortality rates, the number of years of life lost and the high health care costs associated with birth defects make it imperative to establish a coordinated approach to address this problem. The nature of birth defects necessitates that many disciplines be involved," Sadler said.

"With the establishment of this center, investigators in the basic and clinical sciences will be able to work together more effectively to understand the nature of birth defects; the cause of which is unknown 80 percent of the time," he said.

The center also will have an educational component that will train future scientists and provide information to clinicians and the public about causes of birth defects and methods of prevention.

## Ovarian Cancer Is Alumni Weekend Topic

Ovarian cancer management, from fundamental cancer biology through epidemiology, screening and treatment, will be presented at the upcoming Fall Medical Alumni Weekend October 16-17. Part of a successful series of cancer symposiums, the course is directed primarily to an audience of family physicians, obstetricians/gynecologists, nurses, and radiation, medicine and gynecologic oncologists.

An alumni dinner is scheduled for Friday night, when new Loyalty Fund Associates and Loyalty Merit Award recipients will be recognized.

On Saturday, after a tour of the new Ambulatory Care Center, alumni and guests are invited to attend the UNC-Virginia football game. Registration deadline is October 2. For more information, contact Stephanie Stadler at 1-800-862-6264.

## UNC Researchers Investigate the Causes Of Birth Defects

Under the umbrella of the new Birth Defects Center at the University of North Carolina at Chapel Hill, researchers will be collaborating on several projects.

These include determining the causes of spina bifida, a common birth defect in which several vertebrae in the spine fail to develop completely and the spinal cord is exposed, and studying how alcohol ingested during pregnancy affects the child.

The spina bifida project, which began in May, studies the cellular and molecular mechanisms underlying this defect, said Kathleen K. Sulik, Ph.D., associate professor of cell biology and anatomy and one of the investigators.

Sulik and Thomas W. Sadler, Ph.D., professor of cell biology and anatomy, are performing studies to determine the genetic basis for the condition. "If we can identify the gene or genes involved with the malformation, then we have the potential in the future to be able to prevent this birth defect," she said.

Additionally, the researchers will try to prevent malformations in the offspring of mice that have been exposed to valproic acid, which is used to treat epilepsy, and retinoic acid, which is used to treat acne. The investigators will give these pregnant mice folic acid, a vitamin, which researchers elsewhere have found to be promising in preventing spina bifida in animals and humans, Sulik said.

"We want to know what series of events in a cell causes it to develop abnormally and result in spina bifida, a birth defect that in humans affects one out of every 2,000 live births," she said. "Then we will investigate whether administering folic acid is beneficial and at what doses."

Sulik also is studying mice that have been exposed to alcohol in an effort to understand how this drug affects developing fetuses.

*Ronald E. Cranford, M.D., presented "Letting Die, Killing and Murder: The Courage of Our Convictions" as the 10th Spicer-Breckenridge Memorial Lecture. Cranford is associate professor of neurology at the University of Minnesota School of Medicine. Over the past two decades, Cranford has been at the center of the debate on brain death, the definition of persistent vegetative state and the legal and ethical issues which have ensued.*

"In research that has spanned more than a decade, we have been able to show that there are different kinds of malformations that alcohol causes during different stages of the offspring's development," she said.

A distinct malformation complex, fetal alcohol syndrome, can occur when a pregnant woman drinks alcohol. Children born with this syndrome have craniofacial abnormalities, other physical abnormalities, mental retardation and growth retardation, Sulik said.

Currently, Sulik is trying to identify the cells in an embryo that are especially vulnerable to the effects of alcohol and determine why they are so susceptible.

"We believe that the composition of membranes in vulnerable cells is different from that surrounding cells that are less susceptible to alcohol's effects," she said.

After determining mechanisms underlying the difference in cell's response to alcohol, the researchers will examine possible ways to combat the damage.

## Distinguished Service Awards Presented

Five individuals were honored as recipients of 1992 Distinguished Service Awards presented by the UNC School of Medicine and the Medical Alumni Association in April.

Two of this year's Distinguished Service Award winners are longtime members of the UNC-Chapel Hill medical school faculty, H. Robert Brashear Jr., M.D., of Chapel Hill, professor of orthopaedic surgery, and John B. Graham, M.D., of Chapel Hill, Alumni Distinguished Professor of Pathology.

Others honored were Elaine M. Hill of Chapel Hill, retired director of volunteer services at UNC Hospitals, Zack D. Owens, M.D., of Elizabeth City, retired surgeon and former president of the North Carolina Medical Society, and Paul M. Weeks, M.D., chief of the Division of Plastic and Reconstructive Surgery at the Washington University School of Medicine in St. Louis.

*UNC Hospitals recently broke ground for a new 100-bed North Carolina Neuropsychiatric Hospital. The $43.2 million facility also will house inpatient and outpatient services for neurology, otolaryngology and neurosurgery, and UNC Hospitals emergency services. Participants in the earth-turning ceremony, from left, are: A. Napier Baker, director of Pastoral Care; Judith Tintinalli, M.D., chair of the Department of Emergency Medicine; David S. Janowsky, M.D., chair of the Department of Psychiatry; Eric Munson, executive director of UNC Hospitals; Governor James G. Martin; Paul Hardin, chancellor of UNC-Chapel Hill; James T. Hedrick, chairman of the Hospitals Board of Directors; and Dean Stuart Bondurant, M.D.*

# News Briefs

*Brashear*

Brashear came to UNC in 1953 to help start the medical school's Division of Orthopaedic Surgery. "Dr. Brashear has been called a master teacher, one who elegantly blends clarity and conciseness," said Dean Stuart Bondurant, M.D. "He was selected best teacher of the musculoskeletal course in 16 of the 20 years the course has been taught.

"Dr. Brashear has also contributed significantly to the body of orthopaedic literature with publications about his research, especially in the areas of bone tumors," Bondurant said. "His textbook, *Handbook of Orthopaedic Surgery*, edited with the late Dr. R. Beverly Raney, has been an outstanding and widely accepted standard resource for students and medical practitioners through 10 editions."

*Graham*

Graham joined the UNC medical faculty in 1946 and "his studies of coagulation helped unlock the secrets of bleeding disorders," Bondurant said. "His discovery of the coagulation deficiency Factor X (Stuart Factor) was revolutionary; its description led to a greater understanding of bleeding diseases and their management and treatment.

*Hill*

"Dr. Graham's impact on medical education in North Carolina has been immense. He created the world's first clinical laboratory dedicated to the diagnosis and management of bleeding diseases in Chapel Hill, and in the early 1960s, he was instrumental in establishing the Genetics Curriculum in our School of Medicine, nurturing it into one of the strongest such programs of its time."

Hill served 23 years as director of volunteer services of UNC Hospitals, retiring in 1990. "Her service, however, spans 40 years," Bondurant said, "for Mrs. Hill actually began her work as a volunteer here before the hospital opened its doors in 1952, planning the first public tours of the facility.

"She is an extraordinary leader and UNC Hospitals' volunteer programs flourished under her enthusiastic guidance. One of Mrs. Hill's biggest successes was leadership in the establishment of a Ronald McDonald House in Chapel Hill. In addition, she was architect, founder and former president of the North Carolina Society for Directors of Volunteer Services."

Owens maintained an active surgical practice in his home community of Elizabeth City for nearly a half-century. "Beginning in the 1930s and for many years, Dr. Owens was the only surgeon in the area, working diligently to improve medical care and facilities for people there," Bondurant said. "It was a task he relished, and a work he shared daily with his wife and nurse, Martha.

"The years that Dr. Owens served in leadership positions with the North Carolina Medical Society, came at a pivotal time—when the General Assembly was considering expanding the two-year medical program at Chapel Hill to a full four-year degree program. Dr. Owens emphasized at every opportunity the importance of training North Carolina medical students in North Carolina. His persistence was rewarded when the legislature authorized a four-year program to begin in Chapel Hill in 1952."

*Owens*

*Weeks*

Weeks was one of the first UNC medical students to conduct medical research and present his findings to a national medical conference. "After residency training in general surgery here, Dr. Weeks accepted the challenge of a new plastic surgery program at UNC and was the first student to complete the program here," Bondurant said.

"He has continued that pioneer tradition throughout his career in plastic and reconstructive surgery and is at the forefront in surgery of the hand and wrist. Today, he is considered one of the nation's top surgeons in that specialty and has shaped the plastic and reconstructive surgery program at Washington University into one of the most eminent in the country."

# Faculty Notes

## Parker Receives Distinguished Faculty Award

**John C. Parker, M.D.,** Kenan Professor of Medicine in the UNC School of Medicine, received the 1992 Distinguished Faculty Award, presented annually by the Medical Alumni Association.

*Parker*

The award recognizes excellence in teaching, contributions to medicine, leadership in physician continuing education and efforts to improve communications among alumni, faculty and North Carolina residents.

Dean Stuart Bondurant, M.D., said, "Dr. Parker is a scientist whose work characteristically addresses questions of fundamental and far-reaching importance. His clinical competence is of the highest order. He teaches not only from his depth of knowledge but by his own example of perfectly extraordinary care for patients.

"He inspires students, housestaff and even the most senior physicians to the pursuit of truth and to the most caring and responsible application of knowledge in the service of patients."

Parker received his bachelor's degree from UNC-Chapel Hill and earned his medical degree at Yale University School of Medicine in 1961. He completed residency training at Massachusetts General Hospital in Boston and served three years at the National Institutes of Health in Bethesda, MD, performing research in kidney and electrolyte metabolism.

Parker joined the UNC medical faculty in 1967 and was named a Kenan Professor by the UNC-Chapel Hill Board of Trustees in 1991.

## Wilson Receives Jefferson Award

**Frank C. Wilson, M.D.,** William R. Kenan Jr. Professor of Orthopaedic Surgery, has received the 1992 Thomas Jefferson Award.

The annual award, which includes a $1,000 cash prize, is presented to a UNC-Chapel Hill faculty member who best exemplifies the ideals and objectives of Jefferson through personal influence, teaching, writing and scholarship.

"Dr. Frank Wilson, like Thomas Jefferson, is a Renaissance man," the award citation said, calling him a scholar, educator, clinical scientist, humanitarian and academic leader.

Wilson joined the faculty in 1964, was named chief of orthopaedics three years later and director of the musculoskeletal curriculum in 1971. Also an undergraduate honors program instructor, he has taught a course on North Carolina author and UNC alumnus Thomas Wolfe for more than a decade.

## Swenberg to Direct Toxicology Curriculum

**James A. Swenberg, D.V.M.,** professor of environmental sciences and engineering in the School of Public Health and of pathology, has been named director of the Curriculum in Toxicology.

"We are very fortunate that Dr. Swenberg was available to take over the program in toxicology," said Michael Douglas, Ph.D., chair of the Department of Biochemistry and Biophysics. "He has a wonderful track record in toxicology, both in experimental and industrial toxicology and in both the private sector and academic settings."

Swenberg received his doctor of veterinary medicine degree from the University of Minnesota and his doctorate in veterinary pathology from Ohio State University.

He joined the UNC faculty in 1990.

Swenberg is author or co-author of more than 100 scientific papers, two books and 40 book chapters.

## Lucas Named Chair of Biomedical Engineering

**Carol L. Lucas, Ph.D.,** has been named chair of the Department of Biomedical Engineering.

*Lucas*

"Dr. Lucas is an outstanding researcher in the field of biomedical engineering, and her many talents will contribute greatly to this department," said Dean Stuart Bondurant, M.D. "She also is a superb teacher and her commitment to excellence has lead to great achievements in this area."

Lucas, a professor of surgery and biomedical engineering and mathematics and adjunct associate professor in the curriculum in applied science, has been on the UNC faculty since 1972 when she was a research fellow in the Division of Cardiothoracic Surgery. Prior to that she had been a research assistant in the curriculum in biomedical mathematics and engineering from 1967 to 1968, and then was a National Institutes of Health trainee in the curriculum in biomedical mathematics and engineering. She earned her Ph.D. from UNC in biomedical engineering and mathematics in 1973.

# Class Notes

## Manning Berryhill Club

**Ralph B. Garrison, M.D. '31,** retired in 1989 after 55 years of practicing family medicine. He now spends his time playing golf and rummy, and he reports that his coffee intake has increased considerably. He lives in Hamlet.

**J. Lloyd Pate, M.D. '48,** has retired from performing disability determinations for the Social Security Administration. He now serves as a consultant for the organization and for local insurance companies. He lives in Hope Mills.

## 50s

**James C. Parke Jr., M.D. '54,** recently was named director of Pediatric Research at the Carolinas Medical Center in Charlotte. He had served for 23 years as chair of the pediatrics department.

**William E. Easterling Jr., M.D. '56,** was recently elected as the southern representative to the Board of Directors of the Society of Medical College Directors of Continuing Medical Education. He is associate dean for continuing medical education and alumni affairs at UNC-Chapel Hill.

**Edwin Stewart, M.D. '59,** has retired from his neurology practice in Clearwater, FL. He and his wife, Caroline, will continue to live there.

## 60s

**Robert B. Payne, M.D. '60,** has retired as chief executive officer of the Mecklenburg Medical Group after 27 years. He practiced internal medicine and cardiology. He now lives at Lake Norman, and is a consultant with Healthtech, Inc., a new Charlotte firm.

**Allen H. "Turk" Moore Jr., M.D. '62,** is retired and lives in Pass Christian, MS. He still consults in Aviation Medicine, but mostly enjoys fishing. "I put my $0_2$ on my boat and catch great numbers of huge fish."

**Hugh W. Ridlehuber, M.D. HS '64,** has been appointed director of Children's Services and the Forensic Psychiatry Program at Belmont Hills Hospital in Belmont, CA.

**Takey Crist, M.D. '65,** recently returned from a trip to Russia where he performed the first Hulka Clip procedure on a patient and demonstrated laparoscopic techniques to physicians there. He is the director of the Crist Clinic for Women, chief executive officer of the Surgery Center and medical director of the Jacksonville Birthing Center, all located in Jacksonville.

**Phil Deaton, M.D. '66,** is a neurosurgeon and lives in Greensboro. He reports that his son, Patrick Deaton, just completed his master's degree in architecture at Princeton University.

**John C. Triplett, M.D. '69,** is completing a tour of duty in Katmandu, Nepal. He is involved in high altitude research and education and traveler's diarrhea studies. He also serves as a medical officer for Embassies of Bolivia, Peru, Equador, Chile and Columbia.

## 70s

**Thomas W. Powell, M.D. '74,** is in solo practice in general and vascular surgery in Concord. He and his wife, Charlotte, have a 10-year-old son.

**Mark M. Vogelhut, M.D. '75,** has been appointed chief of staff at Tallahassee Memorial Regional Medical Center in Florida, effective July 1. He is an anesthesiologist.

**Thomas Lee Pope Jr., M.D. '78,** has been promoted to professor of radiology and orthopaedics at Bowman Gray School of Medicine in Winston-Salem. He also recently was elected as the North Carolina representative to serve on the Council of the Southern Medical Association.

**Susan Tripp Snider, M.D. '78,** is a clinical assistant professor at the UNC Department of Family Medicine. She also practices rural family medicine and serves as medical director of Yancey County Hospice. She is also on the board of directors of the Wilderness Medical Society, an international organization dealing with medical aspects of human activities in wilderness settings.

**Kathryn Johnson Stephens, M.D. '78,** practices obstetrics and gynecology at Laurel OB/GYN Associates, P.A. She says she keeps extra busy with a growing practice, her husband, Greg, and their two daughters. She invites anyone interested in joining her practice—"especially a female wanting to merge career with family"—to contact her in Charlotte.

**Chris Paletta, M.D. '79,** is an assistant professor of plastic surgery at St. Louis University in Missouri, where he has served on the faculty since 1986. He and his wife, Blair, have three children.

## 80s

**Randy S. Adams, M.D. '80,** is a missionary doctor at a rural Chinese Christian hospital in Taiwan, where he has served for the last five years. He and his wife, Janet, have three boys.

**Cynthia G. Crawford-Green, M.D. '80,** has been elected to Fellowship in the American College of Cardiology. She is assistant professor of medicine at Howard University College of Medicine in Washington, DC. She lives in Glenn Dale, MD.

**Wells Edmundson, M.D. '80,** practices internal medicine and is medical director of a retirement community in Raleigh. He has two children.

**Terresa W. Atwater, M.D. '81,** is medical administrator of the Adult Psychiatry Unit at Cumberland Hospital in Fayetteville. She also has a private practice in the city and in Southern Pines, and reports that she, her husband, Stanley, and their son are doing well.

**W. Vance Cuthrell, M.D. '81,** recently was appointed director of Maternal Fetal Medicine at St. Luke's Regional Medical Center in Boise, ID.

**Charles B. Nemeroff, M.D. '81,** is professor and chair of the Department of Psychiatry and Behavior Sciences at Emory University School of Medicine in Atlanta. He and his wife, Melissa, have three children.

**Douglas P. Kiel, M.D. '81**, has been appointed as the associate director of medical research at Hebrew Rehabilitation Center for Aged Research and Training Institute in Boston, MA. An assistant professor of medicine at Brown University School of Medicine, he also serves as an assistant professor of medicine at the Harvard School of Medicine.

**Dorothy L. Hassler, M.D. '82,** married Mark Camenzind, Ph.D., in April. They live in the San Francisco Bay area, where she practices pediatrics.

**Mark H. Knelson, M.D. '85,** is an assistant professor of radiology at Duke University Medical Center in Durham. He recently completed a fellowship there and currently practices diagnostic and interventional radiology. He and his wife, Lisa, have two sons.

**C. Wilson Sofley Jr., M.D. '86,** is chief of Internal Medicine Service at Winn Army Community Hospital in Georgia. He is completing a four-year obligation, seven months of which, were spent in Operation Desert Storm in Saudi Arabia and Iraq. He says he hopes to return to North Carolina in 1993. He and his wife, Fran, have two sons.

**Stephen E. Deal, M.D. '86,** just completed a three-year gastroenterology fellowship at Medical College of Virginia. He plans to return home to Charlotte in July to join the Charlotte Clinic for Gastrointestinal and Liver Diseases.

**Wayne Rackoff, M.D. '86,** has joined the faculty of the Indiana University School of Medicine as an assistant professor of pediatrics. He is also on staff at the Riley Hospital for Children where he practices pediatric hematology/oncology.

**Johnathon D. Williams, M.D. '86,** recently opened his practice, Piedmont Internal Medicine/Pediatrics Associates in Gastonia. He has a new son, born in November.

**Raquel Strauss, M.S. '86,** has moved to New York to pursue a Ph.D. in speech and language pathology at Columbia University. She is a supervisor and instructor at the Edward D. Mysack Speech and Hearing Clinic.

**Greg Cleveland, M.D. '87,** practices radiology with McLeod Regional Medical Center in Florence. He reports that his daughter, Christine, will be a freshman at UNC this fall. He says, "Florence is about an hour from the South Carolina Grand Strand and I will have plenty of room for visitors."

**Paul Richard Eason, M.D. '88,** is in private practice in internal medicine in Martinsville, VA. He was an instructor at Bowman Gray School of Medicine in Winston-Salem.

**Michael Donald Johnson, M.D. '88,** is a fourth-year ENT resident at the University of Connecticut. He reports that he, his wife and two children are looking forward to returning to coastal North Carolina in July 1993.

**Norma Safransky, M.D. '88,** has completed a psychiatry residency at UNC Hospitals. She plans to go into private practice in Chapel Hill.

**Charles David Scheil, M.D. '88,** recently joined Catawba Radiological Associates in Hickory. He and his wife, Sharon, have a daughter, born last July.

**Rose Sladek-Lawson, M.D. '88,** has completed a pediatrics residency at Children's Hospital in Oakland, CA, and plans to join a private pediatrics practice in Reno, NV, in August.

**Daniel R. Smith, M.D. '88,** is a fellow in pulmonary and critical care at the University of Michigan Medical Center in Ann Arbor. He is married to Karen Hoffman, D.D.S. '87.

**Sha Wallace Tate, M.S. '88,** is a vocational evaluator for Charlotte-Mecklenburg Schools. She married H. Allen Tate III last June.

**Lisa Koehler, M.D. '89,** completed an emergency medicine residency at a Charlotte hospital in June. After spending time in Europe, she plans to work for Georgia Emergency Medicine Specialists in Athens.

**Lorna Westfall, M.D. '89,** recently joined the Air Force and is stationed at Edwards Air Force Base in California for the next three years. She completed a family practice residency at Moses Cone Hospital in Greensboro in June. She reports that she, her husband, David, and daughters are doing well.

## 90s

**Sissel K. Topple, M.D. '90,** reports that she is enjoying her general surgery residency at a Decatur, GA, hospital. She says she still plans to work overseas.

**Jayne Boyer, Ph.D. '90,** and **Bill Kaufmann, Ph.D. '79,** had a daughter, Rachel Elizabeth, in January. She is a staff Fellow at NIEHS at Research Triangle Park, and he is an assistant professor of pathology at the UNC School of Medicine.

**Deaths**
**Joey M. Carter, M.D. '67**
**Harry Swain Willey, M.D. '35**

# Sloan at the Helm

James Sloan, M.D. '70, is the captain of his ship—on and off the water. On the water, the ophthalmologist from Wilmington captains his boat 'Choo-Choo' when fishing the coastal waters for blue marlin, king mackerel and other "monsters, or big fish," he says, that live in the sea.

He sometimes competes in tournaments, but often cruises the Atlantic with friends for relaxation. "Fishing is my real avocation," he says, but he won't tell you any fish stories about the 'one that got away.' He'd rather talk about his friends' catches while he captained the boat. Friends like James Hundley, M.D. '67, who, last August, reeled in a 300-pound blue marlin. "He caught this one with light tackle, while standing up. It was amazing!"

Sloan's sky blue eyes light up when he talks about his fishing exploits, and with just as much enthusiasm and zeal, he talks about his goals for the UNC Medical Alumni Association. In April, he took the helm as president of the 4,200-member organization. It's a job at which he says he plans to have fun.

"I'm going to make it fun. The staff and the alumni are good and dedicated people—how can the job not be fun?" he said.

He says he believes that communication with alumni is the key to a successful term.

"Most alumni have a debt of gratitude, but don't know how to express it—some who could not have and others who could have had opportunities elsewhere—want to repay UNC for their success. I want them to know that they can do it by becoming involved with the alumni association and by contributing their time and/or their money."

He plans, with the help of John Foust, M.D, '55, national chair of the Loyalty Fund, and Joe Russell, M.D., '69, chair of the Medical Alumni Endowment Fund Board, and other members of the organization, to make a lot of personal contact through letters, phone calls and meetings to achieve his goal of a 60 to 65 percent participation rate.

He knows from personal experience that alumni letting alumni know what the need is will produce action. After all, that's how he became involved and was put on the track for a leadership position in the alumni association in 1985, he said.

"For me, all it took was for someone to ask me to become involved. At the time, I wasn't aware of the need. Noel McDevitt, M.D. '64, a former alumni association president, who, at the time, was chair of the nominating committee, told me about the goals of the organization, and I said, 'yes, I'll get involved.'"

Rallying people for a cause he believes in is a special talent of Sloan's, said William E. Easterling Jr., M.D. '56, associate dean for continuing medical education and alumni affairs. "Dr. Sloan is an enthusiastic leader with an extraordinary ability to attract people's attention and support for a common cause," he said.

Now a partner in the ophthalmology practice of Sloan, Butler, Sloan and Stratus, P.A., Sloan grew up in Wilmington where his father was a physician and his mother was a homemaker. Although his father had a great impact in his life, Sloan says he didn't pressure him to go into medicine.

"I wanted to be an engineer, always having been mechanically inclined. I liked to tinker." His second love, though, was history. In 1958, he entered UNC-Chapel Hill on a Navy ROTC scholarship intending to pursue a degree in history, but taking premedical electives in case he changed his mind. He graduated in 1962 with a history degree.

After spending four years with the U.S. Navy Supply Corps, which he calls "the greatest learning experience anyone could ask for," Sloan and his wife, Blair, whom he had met during his junior year at UNC, decided that medicine might be a more "settled way of life." He applied to the UNC School of Medicine and was accepted in 1966.

Sloan says he has many wonderful memories of medical school, but he says probably the best thing that happened was meeting his friend, Edward A. Norfleet, M.D. '70, professor and vice chair, Department of Anesthesiology at UNC-Chapel Hill.

"We had so many things in common and that seemed to have bonded us. We were the same age, 26, so it seemed we had a deeper appreciation of what we were experiencing in medical school. We even had our three children in the same order," Sloan said. Today, Norfleet, Sloan and their families are still best of friends, often going on vacations and fishing trips together.

Sloan graduated from the UNC School of Medicine in 1970 and headed to Geisinger Hospital in Danville, PA, for his internship. He later returned to Chapel Hill for an ophthalmology residency, which he completed in 1974. That same year, he returned to Wilmington to open his practice.

Since then, he has been active in the North Carolina Medical Society, serving on the Eye Care Committee from 1978-1983 and as chief of the ophthalmology section in 1987. From 1987 to 1988, he served as chief of staff of New Hanover Regional Medical Center.

He also has been involved in the community, especially his church, St. James Episcopal, for which he headed a successful capital campaign in 1989, exceeding the $750,000 goal by $150,000.

Sloan says he believes, with the help of alumni leadership, the UNC Medical Alumni Association will achieve that same kind of success—"going beyond our $47 million Bicentennial goal, and increasing the level of support for the Medical Endowment and Loyalty funds."

When I look back, "I want to be able to say that we met, or even exceeded our objectives. That will be a good feeling," he said with a smile.

# President's Letter

Photo by John Domoney

*In his spare time, James Sloan, M.D., enjoys fishing on his boat 'Choo-Choo.'*

I participated in the graduation exercise for the UNC School of Medicine, Class of 1992. For those of us who have not recently given our graduation much thought, it was a trip down memory lane. One hundred sixty-five outstanding young people received their degrees, and the pride in their accomplishment was evident. All walks of life, gender and race were represented, and I was impressed.

Medical education has changed since many of us received our diplomas: the database in medical information has exploded. But our faculty has continued to admit and educate physicians whose primary concern is still the patient. They are graduating well qualified doctors of medicine who will make their mark in the years to come.

This brings me to the gist of my message. Our School of Medicine is a proud institution because of its faculty, students and graduates. We must not forget its impact on our lives in these very uncertain times in health care delivery. Continue your support and loyalty to the UNC School of Medicine and I am confident that the faculty will continue to do its outstanding job.

I look forward to the coming year and solicit input from each of you. Please try to attend our fall meeting on October 16 to enrich or renew your ties with Chapel Hill.

James B. Sloan

*James B. Sloan, M.D. '70*

# CME/Alumni Calendar

| Medical Alumni Activities | | |
|---|---|---|
| October 16-17 | Fall Medical Alumni Weekend | Chapel Hill |
| | **Continuing Education** | |
| October 2-3 | Surgical and Medical Management of the Patient with Peripheral Vascular Disease | Chapel Hill |
| October 8-10 | Robert A. Ross OB/GYN Society Meeting | Asheville |
| October 10-11 | Advanced Cardiac Life Support | Chapel Hill |
| October 16 | Ovarian Cancer: Present and Future Directions in Clinical Management Research Triangle Park | |
| October 29-31 | Assisted Technologies Annual Meeting | Charlotte |
| November 14-15 | George Ham (Psychiatric) Society Annual Meeting | Chapel Hill |
| November 20 | Breast Cancer: Public Policy, Prevention and Cost Effectiveness | Chapel Hill |

For more information about CME courses or alumni activities, contact Office of Continuing Medical Education and Alumni Affairs, School of Medicine, 231 MacNider Building, UNC, Chapel Hill, NC 27599-7000, or call 1-800-862-6264.

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